### Tutorials (October 16, 2016)

<table>
<thead>
<tr>
<th>Tutorial</th>
<th>International Conference Hall I</th>
</tr>
</thead>
</table>
| 13:00 - 14:30 | Tutorial 1: Non-Gaussian machine learning: From ICA to unsupervised deep learning  
Aapo Hyvärinen  
University of Helsinki |

| 14:30 - 16:00 | Tutorial 3: Deep Learning, Spiking Neural Networks and Evolving Spatio-Temporal Data Machines  
Nikola Kasabov, FIEEE, FRSNZ  
Knowledge Engineering and Discovery Research Institute (KEDRI), Auckland University of Technology |

| 18:30 - 20:30 | Welcome Reception |

<table>
<thead>
<tr>
<th>Tutorial</th>
<th>International Conference Hall III</th>
</tr>
</thead>
</table>
| 13:00 - 14:30 | Tutorial 2: The Use of Robotic Technology and Control Theory to Explore Brain Function and Dysfunction  
Stephen Scott  
GSK-CIHR Chair in Neuroscience, Centre for Neuroscience Studies, Department of Biomedical and Molecular Sciences, Queen’s University |

| 14:30 - 16:00 | Tutorial 4: Analysis Methods for Understanding Human Brain Activities  
Okito Yamashita  
Neural Information Analysis Laboratories, ATR |

| 16:30 - 18:30 | Best Student Paper Awards Presentation |
October 17 (Monday)

<table>
<thead>
<tr>
<th><strong>Opening Remark</strong></th>
<th>Clock Tower Centennial Hall 9:20 – 9:30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akira Hirose</td>
<td>General Chair of ICONIP2016 (University of Tokyo)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Plenary 1</strong></th>
<th>Clock Tower Centennial Hall 9:30 – 10:20</th>
</tr>
</thead>
<tbody>
<tr>
<td>chair: Akira Hirose</td>
<td></td>
</tr>
<tr>
<td><strong>Deep CNN Neocognitron for Visual Pattern Recognition</strong></td>
<td></td>
</tr>
<tr>
<td>Kunihiko Fukushima</td>
<td>Senior Research Scientist, Fuzzy Logic Systems Institute (Iizuka, Fukuoka, Japan)</td>
</tr>
</tbody>
</table>
### Monday AM

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
<th>Affiliation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40</td>
<td>Emotion Prediction from User-Generated Videos by Emotion Wheel Guided Deep Learning</td>
<td>Che-Ting Ho¹, Yu-Hsun Lin¹, Ja-Ling Wu¹</td>
<td>NTU</td>
</tr>
<tr>
<td>11:00</td>
<td>Deep Q-learning with Prioritized Sampling</td>
<td>Jianwei Zhai¹, Quan Liu¹, Zongzhang Zhang¹, Shan Zhong¹, Haijun Zhu¹, Peng Zhang¹, Cijia Sun¹</td>
<td>School of Computer Science &amp; Technology, Soochow University</td>
</tr>
<tr>
<td>11:20</td>
<td>Deep Inverse Reinforcement Learning by Logistic Regression</td>
<td>Eiji Uchibe¹</td>
<td>ATR Computational Neuroscience Labs.</td>
</tr>
<tr>
<td>11:40</td>
<td>Parallel Learning for Combined Knowledge Acquisition Model</td>
<td>Kohei Henmi¹, Motonobu Hattori¹</td>
<td>University of Yamanashi</td>
</tr>
<tr>
<td>12:00</td>
<td>Emergence of Higher Exploration in Reinforcement Learning using a Chaotic Neural Network</td>
<td>Yuki Goto¹, Katsunari Shibata¹</td>
<td>Oita University</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:40</td>
<td>Establishing Mechanism of Warning for River Dust Event based on an Artificial Neural Network&lt;br&gt;Yen Hsun Chuang¹, Ho Wen Chen¹, Wei Yea Chen¹, Ya Chin Teng¹&lt;br&gt;¹Tung Hai University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Harvesting multiple resources for Software as Service offers: a big data study&lt;br&gt;Asma Alkalbani¹, Farookh Hussain¹, Ahmed Ghamry², Omar Hussain²&lt;br&gt;¹University of Technology Sydney ²University of New South Wales Canberra (UNSW Canberra)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>Cloud Monitoring Data Challenges: A Systematic Review&lt;br&gt;Asif Gill¹, Sarhang Hevary²&lt;br&gt;¹University of Technology Sydney (UTS) ²University of Technology, Sydney (UTS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:40</td>
<td>Locality-Sensitive Linear Bandit Model for Online Social Recommendation&lt;br&gt;Tong ZHAO¹, Irwin King²&lt;br&gt;¹Shenzhen Key Laboratory of Rich Media Big Data Analytics and Applications, Shenzhen Research Institute, The Chinese University of Hong Kong, Shenzhen, China ²Department of Computer Science and Engineering, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td>An Online-Updating Approach on Task Recommendation in Crowdsourcing Systems&lt;br&gt;Man-Ching YUEN¹, Irwin King¹, Kwong-Sak LEUNG¹&lt;br&gt;¹The Chinese University of Hong Kong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>10:40 - 11:00</td>
<td>Rhinal-hippocampal information flow reverses between memory encoding and retrieval</td>
<td>Juergen Fell(^1), Tobias Wagner(^1), Bernhard Staresina(^2), Charan Ranganath(^3), Christian Elger(^1), Nikolai Axmacher(^4) (^\text{1Dept. of Epileptology, Univ. of Bonn, Germany} (^\text{2Dept. of Psychology, Univ. of Birmingham, UK}) (^\text{3Center for Neuroscience and Dept. of Psychology, Univ. of California, Davis, USA}) (^\text{4Dept. of Psychology, Ruhr-University Bochum, Germany})</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>Inferred duality of synaptic connectivity in local cortical circuit with receptive field correlation</td>
<td>Kohei Watanabe(^1), Junnosuke Teramae(^1), Naoki Wakamiya(^1) (^\text{1Graduate School of Information Science and Technology, Osaka University})</td>
<td></td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>Identifying gifted thinking activities through EEG microstate topology analysis</td>
<td>Li Zhang(^1), Mingna Cao(^1), Bo Shi(^1) (^\text{1Bengbu Medical College})</td>
<td></td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>Representation of local figure-ground by a group of V4 cells</td>
<td>Masaharu Hasuike(^1), Yukako Yamane(^2), Hiroshi Tamura(^2), Ko Sakai(^1) (^\text{1University of Tsukuba}) (^\text{2Osaka University})</td>
<td></td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>Dynamic MEMD associated with Approximate Entropy in Patients’ Consciousness Evaluation</td>
<td>Gaochao Cui(^1,2), Qibin Zhao(^1,2), Toshihisa Tanaka(^3), Jianting Cao(^1,2), Andrzej Cichocki(^2) (^\text{1Saitama Institute of Technology}) (^\text{2Brain Science Institute, RIKEN}) (^\text{3Tokyo University})</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 10:40-11:00 | Neural Dynamic Programming for Event-Based Nonlinear Adaptive Robust Stabilization  
Ding Wang¹, Hongwen Ma¹, Derong Liu², Huidong Wang³  
¹Institute of Automation, Chinese Academy of Sciences  
²University of Science and Technology Beijing  
³Shandong University of Finance and Economics |
| 11:00-11:20 | Entropy Maximization of Occupancy Grid Map for Selecting Good Registration of SLAM Algorithms  
Daishiro Akiyama¹, Kazuya Matsuo¹, Shuichi Kurogi¹  
¹Kyushu Institute of Technology |
| 11:20-11:40 | Analysis of an Intention-Response Model inspired by Brain Nervous System for Cognitive Robot  
Jae-Min Yu¹, Sung-Bae Cho¹  
¹Yonsei University |
| 11:40-12:00 | Dynamic Surface Sliding Mode Algorithm Based on Approximation for Three-dimensional Trajectory Tracking Control of an AUV  
Kai Zhang¹, Tieshan Li¹, Yuqi Wang¹, Zifu Li²  
¹Dalian Maritime University  
²Jimei University |
## Monday PM1

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speakers</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:20</td>
<td>Exploiting Heterogeneous Units for Reservoir Computing with Simple Architecture</td>
<td>Gouhei Tanaka(^1), Ryosho Nakane(^1), Toshiyuki Yamane(^2), Daiju Nakano(^2), Seiji Takeda(^2), Shigeru Nakagawa(^2), Akira Hirose(^1)</td>
<td>(^1)The University of Tokyo  (^2)IBM Research - Tokyo</td>
</tr>
<tr>
<td>13:40</td>
<td>Graceful Degradation under Noise on Brain Inspired Robot Controllers</td>
<td>Ricardo de Azambuja(^1), Frederico Klein(^1), Martin Stoelen(^1), Samantha Adams(^1), Angelo Cangelosi(^1)</td>
<td>(^1)Plymouth University</td>
</tr>
<tr>
<td>14:00</td>
<td>Dynamics of reservoir computing at the edge of stability</td>
<td>Toshiyuki Yamane(^1), Seiji Takeda(^1), Daiju Nakano(^1), Gouhei Tanaka(^2), Ryosho Nakane(^2), Shigeru Nakagawa(^1), Akira Hirose(^2)</td>
<td>(^1)IBM Research - Tokyo  (^2)The University of Tokyo</td>
</tr>
<tr>
<td>14:20</td>
<td>Hybrid Gravitational Search Algorithm with Swarm Intelligence for Object Tracking</td>
<td>Henry Fung Yeung(^1), Guang Liu(^1), Yuk Ying Chung(^1), Eric Liu(^1), Wei-Chang Yeh(^2)</td>
<td>(^1)University of Sydney  (^2)National Tsing Hua University, Taiwan</td>
</tr>
<tr>
<td>14:40</td>
<td>Photonic Reservoir Computing Based on Laser Dynamics with External Feedback</td>
<td>Seiji Takeda(^1), Daiju Nakano(^1), Toshiyuki Yamane(^1), Gouhei Tanaka(^2), Ryosho Nakane(^2), Akira Hirose(^2), Shigeru Nakagawa(^1)</td>
<td>(^1)IBM Research - Tokyo  (^2)The University of Tokyo</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| 13:20  | Whole Brain Architecture: Toward a Human Like General Purpose Artificial Intelligence | Hiroshi Yamakawa<sup>1</sup>, Masahiko Osawa<sup>2</sup>, Yutaka Matsuo<sup>3</sup>  
<sup>1</sup>Dwango  
<sup>2</sup>Keio University  
<sup>3</sup>The University of Tokyo |
| 13:40  | Learning Visually Guided Risk-Aware Reaching on a Robot Controlled by a GPU Spiking Neural Network | Terence Sanger<sup>1</sup>  
<sup>1</sup>USC |
| 14:00  | Regularization Methods for the Restricted Bayesian Network BE-SOM    | Yuuji Ichisugi<sup>1</sup>, Takashi Sano<sup>1</sup>  
<sup>1</sup>AIST |
| 14:20  | Representation of Relations by Planes in Neural Network Language    | Takuma Ebisu<sup>1</sup>, Ryutarou Ichise<sup>2</sup>  
<sup>1</sup>SOKENDAI  
<sup>2</sup>National Institute of Informatics |
| 14:40  | Modeling of emotion system as a value calculation system          | Takashi Omori<sup>1</sup>, Masahiro Miyata<sup>1</sup>  
<sup>1</sup>Tamagawa University |
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:20</td>
<td>Modeling Attention-Induced Reduction of Spike Synchrony in the Visual Cortex</td>
<td>Nobuhiko Wagatsuma¹, Rudiger der Heydt², Ernst Niebur² ¹Tokyo Denki University ²Johns Hopkins University</td>
</tr>
<tr>
<td>13:40</td>
<td>A Robust TOA Source Localization Algorithm based on LPNN</td>
<td>Chi Sing Leung¹, Hao Wang¹, Ruibin Feng¹ ¹City University of Hong Kong</td>
</tr>
<tr>
<td>14:00</td>
<td>Reward-Based Learning of a Memory-Required Task based on the Internal Dynamics of a Chaotic Neural Network</td>
<td>Toshitaka Matsuki¹, Katsunari Shibata¹ ¹Oita University</td>
</tr>
<tr>
<td>14:20</td>
<td>Roles of Gap Junctions in Organizing Traveling Waves in a Hippocampal CA3 Network Model</td>
<td>Toshikazu Samura¹, Yutaka Sakai², Hatsuo Hayashi³, Takeshi Aihara² ¹Yamaguchi University ²Tamagawa University ³Kyushu Institute of Technology</td>
</tr>
<tr>
<td>14:40</td>
<td>Towards Robustness to Fluctuated Perceptual Patterns by a Deterministic Predictive Coding Model in a Task of Imitative Synchronization with Human Movement Patterns</td>
<td>Ahmadreza Ahmadi¹, Jun Tani¹ ¹KAIST</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
<td>Authors</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>13:20 - 13:40</td>
<td>Clustering-based Weighted Extreme Learning Machine for Classification in Drug Discovery Process</td>
<td>Wasu Kudisthalert$^1$, Kitsuchart Pasupa$^1$</td>
</tr>
<tr>
<td>13:40 - 14:00</td>
<td>Metabolite Named Entity Recognition: A Hybrid Approach</td>
<td>Wutthipong Kongburan$^1$, Praisan Padungweang$^1$, Worarat Krathu$^1$, Jonathan Chan$^1$</td>
</tr>
<tr>
<td>14:00 - 14:20</td>
<td>Improving strategy for discovering interacting genetic variants in association studies</td>
<td>Suneetha Uppu$^1$, Aneesh Krishna$^1$</td>
</tr>
<tr>
<td>14:20 - 14:40</td>
<td>Improving Dependency Parsing on Clinical Text with Syntactic Clusters from Web Text</td>
<td>Xiuming Qiao$^1$, Hailong Cao$^1$, Tiejun Zhao$^1$, Kehai Chen$^1$</td>
</tr>
<tr>
<td>14:40 - 15:00</td>
<td>Exploiting Temporal Genetic Correlations for Enhancing Regulatory Network Optimization</td>
<td>Ahammed Kizhakkethil Youseph$^1$, Madhu Chetty$^2$, Gour Karmakar$^2$</td>
</tr>
<tr>
<td>Time</td>
<td>Presentation</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>15:20 - 15:40</td>
<td>FPGA Implementation of Autoencoders having Shared Synapse Architecture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Akihiro Suzuki(^1), Takashi Morie(^1), Hakaru Tamukoh(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)Kyushu Institute of Technology Graduate School of Life Science and Systems Engineering</td>
<td></td>
</tr>
<tr>
<td>15:40 - 16:00</td>
<td>Time-domain Weighted-sum Calculation for Ultimately Low Power VLSI Neural Networks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quan Wang(^1), Hakaru Tamukoh(^1), Takashi Morie(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)Kyushu Institute of Technology</td>
<td></td>
</tr>
<tr>
<td>16:00 - 16:20</td>
<td>A CMOS Unit Circuit Using Subthreshold Operation of MOSFETs for Chaotic Boltzmann Machines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Masatoshi Yamaguchi(^1), Takashi Kato(^1), Quan Wang(^1), Hideyuki Suzuki(^2), Hakaru Tamukoh(^1), Takashi Morie(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)Kyushu Institute of Technology (^2)Osaka University</td>
<td></td>
</tr>
<tr>
<td>16:20 - 16:40</td>
<td>An attempt of speed-up of Neurocommunicator, an EEG-based communication aid.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ryohei Hasegawa(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)AIST</td>
<td></td>
</tr>
<tr>
<td>16:40 - 17:00</td>
<td>Computational Performance of Echo State Networks with Dynamic Synapses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ryota Mori(^1), Gouhei Tanaka(^1), Ryosho Nakane(^1), Akira Hirose(^1), Kazuyuki Aihara(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)The University of Tokyo</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>15:20</td>
<td>The Whole Brain Architecture Initiative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Naoya Arakawa(^1), Hiroshi Yamakawa(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)The Whole Brain Architecture Initiative (^2)Dwango</td>
<td></td>
</tr>
<tr>
<td>15:40</td>
<td>Neural Network for Quantum Brain Dynamics: 4D $CP^1 + U(1)$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shinya Sakane(^1), Tetsuo Matsui(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)Kindai University</td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>BriCA: A Modular Software Platform for Whole Brain Architecture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kotone Itaya(^1), Koichi Takahashi(^2), Masayoshi Nakamura(^3),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moriyoshi Koizumi(^4), Naoya Arakawa(^5), Masaru Tomita(^1),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hiroshi Yamakawa(^3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)Keio University (^2)RIKEN QBiC (^3)DWANGO Co. (^4)Open</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collector Inc. (^5)The Whole Brain Architecture Initiative</td>
<td></td>
</tr>
<tr>
<td>16:20</td>
<td>An Implementation of Working Memory Using Stacked Half Restricted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boltzmann Machine: Toward to Restricted Boltzmann Machine-Based Cognitive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Architecture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Masahiko Osawa(^1), Hiroshi Yamakawa(^1), Michita Imai(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)Keio University / Dwango AI Laboratory</td>
<td></td>
</tr>
<tr>
<td>16:40</td>
<td>A Game-Engine-Based Learning Environment Framework for Artificial General</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intelligence - Toward Democratic AGI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Masayoshi Nakamura(^3), Hiroshi Yamakawa(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(^1)DWANGO Co.</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Topic</td>
<td>Authors</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>15:20</td>
<td>Image Segmentation using Graph Cuts based on Maximum-Flow Neural Network</td>
<td>Masatoshi Sato¹, Hideharu Toda², Hisashi Aomori², Tsuyoshi Otake³, Mamoru Tanaka⁴</td>
</tr>
<tr>
<td></td>
<td></td>
<td>¹Tokyo Metropolitan University  ²Chukyo University  ³Tamagawa University  ⁴Sophia University</td>
</tr>
<tr>
<td>15:40</td>
<td>Joint Routing and Bitrate Adjustment for DASH Video via neurodynamic programming in SDN</td>
<td>Kunjie Zhu¹, Junchao Jiang¹, Bowen Yang¹, Weizhe Cai¹, Jian Yang¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>¹University of Science and Technology of China</td>
</tr>
<tr>
<td>16:00</td>
<td>Stability of Periodic Orbits in Dynamic Binary Neural Networks with Ternary Connection</td>
<td>Kazuma Makita¹, Ryuji Sato¹, Toshimichi Saito¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>¹Hosei University</td>
</tr>
<tr>
<td>16:20</td>
<td>Evaluation of Chaotic Resonance by Lyapunov Exponent in Attractor-Merging Type Systems</td>
<td>Sou Nobukawa¹, Haruhiko Nishimura², Teruya Yamanishi¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>¹Fukui University of Technology  ²University of Hyogo</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
<td>Presenters</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>15:20</td>
<td>Sleep Stage Prediction Using Respiration and Body-Movement Based on Probabilistic Classifier</td>
<td>Hirotaka Kaji¹, Hisashi Iizuka¹, Mitsuo Hayashi²</td>
</tr>
<tr>
<td>15:40</td>
<td>Removing Ring Artifacts in CBCT Images Using Smoothing based on Relative Total Variation</td>
<td>Qirun Huo¹, Jianwu Li¹, Yao Lu¹, Ziye Yan²</td>
</tr>
<tr>
<td>16:00</td>
<td>Proposal of a human heartbeat detection/monitoring system employing chirp Z-transform and time-sequential neural prediction</td>
<td>Ayse Bezer¹, Akira Hirose¹</td>
</tr>
<tr>
<td>16:20</td>
<td>FAST DUAL-TREE WAVELET COMPOSITE SPLITTING ALGORITHMS FOR COMPRESSED SENSING MRI</td>
<td>Jianwu Li¹, Jinpeng Zhou¹, Qiang Tu¹, Javaria Ikram¹, Zhengchao Dong²</td>
</tr>
<tr>
<td>16:40</td>
<td>Implementation of a modular Growing When Required neural gas architecture for recognition of falls</td>
<td>Frederico Belmonte Klein¹, Karla Stepanova², Angelo Cangelosi¹</td>
</tr>
</tbody>
</table>
October 18 (Tuesday)

<table>
<thead>
<tr>
<th><strong>Plenary 2</strong></th>
<th>Clock Tower Centennial Hall 9:30 – 10:20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>chair:</strong></td>
<td>Kenji Doya</td>
</tr>
<tr>
<td><strong>Recent Developments in Online Learning for Big Data Applications</strong></td>
<td></td>
</tr>
<tr>
<td>Irwin King</td>
<td></td>
</tr>
<tr>
<td>Department of Computer Science &amp; Engineering, The Chinese University of Hong Kong</td>
<td></td>
</tr>
</tbody>
</table>

**Tuesday AM**

<table>
<thead>
<tr>
<th><strong>TueAM-1</strong></th>
<th>Data Mining and Cybersecurity Workshop 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chair:</strong></td>
<td>Tao Ban, Paul Pang, Kaizhu Huang</td>
</tr>
<tr>
<td><strong>Room:</strong></td>
<td>International Conference Hall I</td>
</tr>
</tbody>
</table>

- **Invited talk**
  - Cyber-security Information Sharing with Data Correlation
  - Koji Nakao\(^1\),\(^2\)
  \(^1\)Distinguished Researcher, Cybersecurity Research Institute National Institute of Information and Communications Technology, \(^2\)Information Security advisor, KDDI

  10:20 - 11:00

- **Botnet Detection Using Graphical Lasso with Graph Density**
  - Chansu Han\(^1\), Kento Kono\(^1\), Shoma Tanaka\(^1\), Masanori Kawakita\(^1\), Jun’ichi Takeuchi\(^1\)
  \(^1\)Graduate School of ISEE, Kyushu University

  11:00 - 11:20

- **The Usability of Metadata for Android Application Analysis**
  - Takeshi Takahashi\(^1\), Tao Ban\(^1\), Chin-Wei Tien\(^2\), Chih-Hung Lin\(^2\), Daisuke Inoue\(^1\), Koji Nakao\(^1\)
  \(^1\)National Institute of Information and Communications Technology, \(^2\)Institute for Information Industry

  11:20 - 11:40

- **Preserving Privacy of Agents in Reinforcement Learning for Distributed Cognitive Radio Networks**
  - Geong Sen Poh\(^1\), Kok-Lim Alvin Yau\(^2\)
  \(^1\)MIMOS Berhad, \(^2\)Sunway University

  11:40 - 12:00
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40 - 11:00</td>
<td>Simplification of Processing Elements in Cellular Neural Networks - Working Confirmation using Circuit Simulation - Mutsumi Kimura¹, Nao Nakamura¹, Tomoharu Yokoyama¹, Tokiyoshi Matsuda¹, Tomoya Kameda², Yasuhiko Nakashima² ¹Ryukoku University ²Nara Institute of Science and Technology</td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>Pattern and frequency generation using an opto-electronic reservoir computer with output feedback Piotr Antonik¹, Michiel Hermans¹, Marc Haelterman¹, Serge Massar¹ ¹Université Libre de Bruxelles</td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>A retino-morphic hardware system simulating the graded and action potentials in retinal neuronal layers Yuki Hayashida¹, Yuka Kudo¹, Ryoya Ishida¹, Hirotsugu Okuno², Tetsuya Yagi¹ ¹Osaka University ²Osaka Institute of Technology</td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>Stability Analysis of Periodic Orbits in Digital Spiking Neurons Tomoki Hamaguchi¹, Kei Yamaoka¹, Toshimichi Saito¹ ¹Hosei University</td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>Letter Reproduction Simulator for Hardware Design of Cellular Neural Network using Thin-Film Synapses - Crosspoint-type Synapses and Simulation Algorithm - Tomoya Kameda¹ ¹Nara Institute of Science and Technology</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>10:40</td>
<td>Non-parametric e-mixture of density functions</td>
</tr>
<tr>
<td>11:00</td>
<td>An Entropy Estimator Based on Polynomial Regression with Poisson Error Structure</td>
</tr>
<tr>
<td>11:20</td>
<td>A problem in model selection of LASSO and introduction of scaling</td>
</tr>
<tr>
<td>11:40</td>
<td>A Theoretical Analysis of Semi-Supervised Learning</td>
</tr>
<tr>
<td>12:00</td>
<td>Evolutionary multi-task learning for modular training of feed-forward neural networks</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>10:40</td>
<td>An analysis of current source density profiles activated by local</td>
</tr>
<tr>
<td></td>
<td>stimulation in the mouse auditory cortex in vitro</td>
</tr>
<tr>
<td>11:00</td>
<td>Differential Effect of Two Types of Anesthesia on Sound-driven</td>
</tr>
<tr>
<td></td>
<td>Oscillations in the Rat Primary Auditory Cortex</td>
</tr>
<tr>
<td>11:20</td>
<td>Developing an Implantable Micro Magnetic Stimulation System</td>
</tr>
<tr>
<td></td>
<td>to Induce Neural Activity in vivo</td>
</tr>
<tr>
<td>11:40</td>
<td>&quot;Figure&quot; Salience as a Meta-Rule for Rule Dynamics in Visual</td>
</tr>
<tr>
<td></td>
<td>Perception</td>
</tr>
<tr>
<td>12:00</td>
<td>A neural network model for retaining object information required in</td>
</tr>
<tr>
<td></td>
<td>a categorization task</td>
</tr>
</tbody>
</table>
## Tuesday PM1

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:00</td>
<td>Invited talk</td>
</tr>
<tr>
<td></td>
<td>The emerging era of Cognitive Big Data Informatics: Some Case Studies and future Directions</td>
</tr>
<tr>
<td></td>
<td>Amir Hussain(^1,^2)</td>
</tr>
<tr>
<td></td>
<td>(^1)Director, Cognitive Big Data Informatics (CogBID) Laboratory,</td>
</tr>
<tr>
<td></td>
<td>(^2)Division of Computing Science and Mathematics, University of Stirling, Stirling FK9 4LA, UK</td>
</tr>
<tr>
<td>13:40</td>
<td>winner presentation</td>
</tr>
<tr>
<td>14:00</td>
<td>Campus Wireless LAN Usage Analysis and Its Applications</td>
</tr>
<tr>
<td></td>
<td>Kensuke Miyashita(^1), Yuki Maruno(^1)</td>
</tr>
<tr>
<td></td>
<td>(^1)Kyoto Women’s University</td>
</tr>
<tr>
<td>14:20</td>
<td>MDL Criterion for NMF with Application to Botnet Detection</td>
</tr>
<tr>
<td></td>
<td>Shoma Tanaka(^1), Yuki Kawamura(^2), Masanori Kawakita(^1),</td>
</tr>
<tr>
<td></td>
<td>Noboru Murata(^3), Junichi Takeuchi(^1)</td>
</tr>
<tr>
<td></td>
<td>(^1)Graduate School of ISEE Kyushu University (^2)Nihon Unisys, Ltd. (^3)Waseda University</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>13:20</td>
<td>Weighted Discriminant Analysis and Kernel Ridge Regression</td>
</tr>
<tr>
<td></td>
<td>Metric Learning for Face Verification</td>
</tr>
<tr>
<td>13:40</td>
<td>An Incremental One Class Learning Framework for Large Scale Data</td>
</tr>
<tr>
<td>14:00</td>
<td>Gesture Spotting by Using Vector Distance of Self-Organizing Map</td>
</tr>
<tr>
<td>14:20</td>
<td>Cross-Database Facial Expression Recognition via Unsupervised Domain Adaptive Dictionary Learning</td>
</tr>
<tr>
<td>14:40</td>
<td>Adaptive Multi-View Semi-Supervised Nonnegative Matrix Factorization</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>13:20</td>
<td>On the Noise Resilience of Ranking Measures</td>
</tr>
<tr>
<td>13:40</td>
<td>BPSpike II: A new backpropagation learning algorithm for spiking neural networks</td>
</tr>
<tr>
<td>14:00</td>
<td>Group dropout inspired by ensemble learning</td>
</tr>
<tr>
<td>14:20</td>
<td>Audio Generation From Scene Considering Its Emotion Aspect</td>
</tr>
<tr>
<td>14:40</td>
<td>Semi Supervised Autoencoder</td>
</tr>
</tbody>
</table>
**TuePM1-5 Social Networks**  
Chair: Ma Huifang, Marcos Quiles  
Room: Conference Room IV

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 13:20 - 13:40 | Influence Spread Evaluation and Propagation Rebuilding   | Qianwen Zhang\(^1\), Cheng-Chao Huang\(^1\), Jinkui Xie\(^1\)  
\(^1\)East China Normal University |
| 13:40 - 14:00 | A Tag Probability Correlation-based Microblog Recommendation Method | Zhang Di\(^1\), Ma Huifang\(^1\)  
\(^1\)Northwest Normal University |
| 14:00 - 14:20 | A New Model and Heuristic for Infection Minimization by Cutting Relationships | Rafael Santiago\(^1\), Wellington Zunino\(^1\), Fernando Concatto\(^1\), Luís Lamb\(^2\)  
\(^1\)Universidade do Vale do Itajaí  
\(^2\)Federal University of Rio Grande do Sul |
| 14:20 - 14:40 | Sentiment and Behavior Analysis of one Controversial American Individual on Twitter | J. Eliakin M. de Oliveira\(^1\), Moshe Cotacallapa\(^1\), Wilson Seron\(^2\), Rafael Santos\(^1\), Marcos Quiles\(^2\)  
\(^1\)INPE  
\(^2\)UNIFESP |
### Tuesday PM2

#### TuePM2-1  Data Mining and Cybersecurity Workshop 3
**Chair:** Tao Ban, Paul Pang, Kaizhu Huang  
**Room:** International Conference Hall I

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 15:20  | **A Brief Review of Spin-glass Applications in Unsupervised and Semi-supervised Learning**  
Lei Zhu¹, Kazushi Ikeda², Paul Pang¹, Ruibin Zhang¹, Abdolhossein Sarrazadeh¹  
¹Unitec Institute of Technology, New Zealand ²Nara Institute of Science and Technology |
| 15:40  | **Learning Latent Features with Infinite Non-negative Binary Matrix Tri-factorization**  
Xi Yang¹, Kaizhu Huang¹, Rui Zhang¹, Amir Hussain²  
¹Xi'an Jiaotong-Liverpool University ²University of Stirling |
| 16:00  | **A Novel Manifold Regularized Online Semi-Supervised Learning Algorithm**  
Shuguang Ding¹, Xuanyang Xi², Zhiyong Liu², Hong Qiao², Bo Zhang³  
¹Institute of Applied Mathematics, AMSS, Chinese Academy of Sciences ²State Key Lab of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences ³LSEC and Institute of Applied Mathematics, AMSS, Chinese Academy of Sciences |
| 16:20  | **Learning from Few Samples with Memory Network**  
Shufei Zhang¹, Kaizhu Huang¹  
¹Xi'an Jiaotong-Liverpool Univ. |
| 16:40  | **Generalized Compatible Function Approximation for Policy Gradient Search**  
Yiming Peng¹, Gang Chen¹, Mengjie Zhang¹, Paul Pang²  
¹Victoria University of Wellington ²Unitec Institute of Technology, New Zealand |
| 17:00  | **A Combo Object Model for Maritime Boat Ramps Traffic Monitoring**  
Paul Pang³  
³Unitec Institute of Technology, New Zealand |
TuePM2-3  Pattern Recognition 2
Chair: Hiroomi Hikawa, Tong Zhiqiang
Room: International Conference Hall III

15:20 - 15:40
Robust Soft Semi-Supervised Discriminant Projection for Feature Learning
Xiaoyu Wang¹, Zhao Zhang¹, Yan Zhang¹
¹Soochow University

15:40 - 16:00
A Hybrid Pooling Method for Convolutional Neural Networks
Tong Zhiqiang¹ Kazuyuki Aihara¹ Gouhei Tanaka¹
¹The University of Tokyo

16:00 - 16:20
Multi-nation and multi-norm License plates detection in real traffic surveillance environment using Deep Learning
Amira Naimi¹ Yousri Kessentini¹ Mohamed Hammami¹
¹MIRACL

16:20 - 16:40
A study on cluster size sensitivity of fuzzy c-means algorithm variants
Laszlo Szilagyi¹, Sandor Miklos Szilagyi², Calin Enachescu²
¹Sapientia University of Transylvania, Tîrgu Mureș, Romania
²Petru Maior University

16:40 - 17:20
Invited talk
Statistical mechanics of pre-training and fine tuning in deep learning
Masayuki Ohzeki¹
¹Graduate School of Informatics, Kyoto University.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Authors</th>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:20</td>
<td>Sampling-based Gradient Regularization for Capturing Long-Term Dependencies in Recurrent Neural Networks</td>
<td>Artem Chernodub(^1), Dimitri Nowicki(^1)</td>
<td>Institute of MMS of NAS of Ukraine</td>
</tr>
<tr>
<td>15:40</td>
<td>FACE HALLUCINATION USING CORRELATIVE RESIDUE COMPENSATION IN A MODIFIED FEATURE SPACE</td>
<td>Javaria Ikram(^1), Yao Lu(^1), Jianwu Li(^1), Hui Nie(^1)</td>
<td>Beijing Institute of Technology</td>
</tr>
<tr>
<td>16:00</td>
<td>Modal Regression via Direct Log-Density Derivative Estimation</td>
<td>Hiroaki Sasaki(^{1,2}), Yurina Ono(^2), Masashi Sugiyama(^2)</td>
<td>Nara Institute of Science and Technology (^{2}) The University of Tokyo</td>
</tr>
<tr>
<td>16:20</td>
<td>Simplicial Nonnegative Matrix Tri-Factorization: Fast Guaranteed Parallel Algorithm</td>
<td>Duy Khuong Nguyen(^1), Dinh Quoc Tran(^2), Tu Bao Ho(^3)</td>
<td>University of Engineering and Technology: VNU (^2) The University of North Carolina at Chapel Hill (^3) JAIST</td>
</tr>
<tr>
<td>16:40</td>
<td>Active Consensus-Based Semi-Supervised Growing Neural Gas</td>
<td>Vinicius Maximo(^1), Mariá Nascimento(^1), Fabricio Breve(^2), Marcos Quiles(^1)</td>
<td>UNIFESP (^1) UNESP (^2)</td>
</tr>
</tbody>
</table>
Poster Session 1

**Poster1-1 : Applications**
Room International Conference Hall II

Data Analysis of Correlation Between Project Popularity and Code Change Frequency
Dabeeruddin Syed¹, Jadran Sessa¹, Andreas Henschel¹, Davor Svetinovic¹
¹Masdar Institute of Science and Technology

Hidden space neighbourhood component analysis for cancer classification
Li Zhang¹, Xiaojuan Huang¹, Bangjun Wang¹, Fanzhang Li¹, Zhao Zhang¹
¹Soochow University

Prediction of Bank Telemarketing with Co-training of Mixture-of-Experts and MLP
Jae-Min Yu¹, Sung-Bae Cho¹
¹Yonsei University

Prioritising Security Tests on Large-Scale and Distributed Software Development Projects by Using Self-Organised Maps
Marcos Alvares¹, Fernando Lima Neto², Tshilidzi Marwala¹
¹University of Johannesburg  ²University of Pernambuco

**ANDROID MALWARE DETECTION METHOD BASED ON FUNCTION CALL GRAPHS**
yuxin ding¹, Siyi Zhu¹, Xiaoling Xia¹
¹Harbin Institute of Technology Shenzhen Graduate School

Proposal of singular-unit restoration by focusing on the spatial continuity of topographical statistics in spectral domain
Kazuhide Ichikawa¹, Akira Hirose¹
¹The University of Tokyo
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Impact of Adaptive Regularization of the Demand Predictor on A Multistage Supply Chain Simulation</td>
<td>Fumiaki Saitoh(^1)</td>
<td>Aoyama Gakuin University</td>
</tr>
<tr>
<td>The effect of reward information on perceptual decision making</td>
<td>Devu Mahesan(^1), Manisha Chawla(^1), Krishna P Miyapuram(^1)</td>
<td>Indian Institute of Technology, Gandhinagar, India</td>
</tr>
<tr>
<td>Doubting What to Eat: A Computational Model for Food Choice Using Different Valuing Perspectives</td>
<td>Altaf Hussain Abro(^1), Jan Treur(^1)</td>
<td>VU University, Amsterdam, Netherlands</td>
</tr>
<tr>
<td>A Novel Graph Regularized Sparse Linear Discriminant Analysis Model for EEG Emotion Recognition</td>
<td>Yang Li(^1), Wenming Zheng(^1), Zhen Cui(^1), Xiaoyan Zhou(^2)</td>
<td>Southeast University (^1) Nanjing University of Information Science &amp; Technology (^2)</td>
</tr>
<tr>
<td>Information maximization in a feedforward network replicates the stimulus preference of the medial geniculate and the auditory cortex</td>
<td>Takuma Tanaka(^1)</td>
<td>Shiga University</td>
</tr>
<tr>
<td>A simple visual model accounts for drift illusion and reveals illusory patterns</td>
<td>Daiki Nakamura(^1), Shunji Satoh(^1)</td>
<td>The University of Electro-Communications</td>
</tr>
<tr>
<td>An Internal Model of the Human Hand Affects Recognition of Graspable Tools</td>
<td>Masazumi Katayama(^1), Yusuke Akimaru(^1)</td>
<td>Department of Human and Artificial Intelligent Systems, Graduate School of Engineering, University of Fukui</td>
</tr>
<tr>
<td>Perceptual Representation of Material Quality — Adaptation to BRDF-morphing Images —</td>
<td>Kouki Kudou(^1), Ko Sakai(^1)</td>
<td>University of Tsukuba</td>
</tr>
<tr>
<td>Title</td>
<td>Authors</td>
<td>Affiliations</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>GPU-Accelerated Simulations of an Electric Stimulus and Neural Activities in Electrolocation</td>
<td>Kazuhisa Fujita¹, Yoshiki Kashimori²</td>
<td>¹Tsuyama National College of Technology  ²Univ. of Electro-Communications</td>
</tr>
<tr>
<td>Analysis of Similarity and Differences in Brain Activities between Perception and Production of Facial Expressions Using EEG Data and the NeuCube Spiking Neural Network Architecture</td>
<td>Hideaki Kawano¹, Akinori Seo¹, Zohreh Gholami Doborjeh², Nikola Kasabov², Maryam Gholami Doborjeh²</td>
<td>¹Kyushu Institute of Technology  ²Auckland University of Technology</td>
</tr>
<tr>
<td>Self and Non-self Discrimination Mechanism Based on Predictive Learning with Estimation of Uncertainty</td>
<td>Ryoichi Nakajo¹, Maasa Takahashi¹, Shingo Murata¹, Hiroaki Arie¹, Tetsuya Ogata¹</td>
<td>¹Waseda University</td>
</tr>
<tr>
<td>A Framework for Ontology Based Management of Neural Network as a Service</td>
<td>Erich Schikuta¹, Abdelkader Magdy¹, A. Baith Mohamed²</td>
<td>¹University of Vienna  ²Arab Academy for Science and Technology &amp; Maritime Transport, Egypt</td>
</tr>
<tr>
<td>Title</td>
<td>Authors</td>
<td>Affiliations</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>Modeling the propensity score with statistical learning</td>
<td>Kenshi Uchihashi¹, Atsunori Kanemura¹</td>
<td>¹National Institute of Advanced Industrial Science and Technology (AIST)</td>
</tr>
<tr>
<td>Analysis of the DNN-k-WTA Network Model with Drifts in the Offset Voltages of Threshold Logic Units</td>
<td>Chi Sing Leung¹, Ruibin Feng¹, John Sum²</td>
<td>¹City University of Hong Kong ²National Chung Hsing University</td>
</tr>
<tr>
<td>Efficient Numerical Simulation of Neuron Models with Spatial Structure on Graphics Processing Units</td>
<td>Tsukasa Tsuyuki¹, Yuki Yamamoto², Tadashi Yamazaki¹</td>
<td>¹The University of Electro-Communications ²Tokyo Medical and Dental University</td>
</tr>
<tr>
<td>A Scalable Patch-Based Approach for RGB-D Face Recognition</td>
<td>Nesrine GRATI¹, Achraf Ben-Hamadou², Mohamed Hammami¹</td>
<td>¹Miracl Laboratory Sfax-Tunisia ²Valeo</td>
</tr>
<tr>
<td>Gaussian Processes based fusion of multiple data sources for automatic identification of geological boundaries in mining</td>
<td>Katherine Silversides¹, Arman Melkumyan¹</td>
<td>¹The University of Sydney</td>
</tr>
<tr>
<td>Speaker Detection in Audio Stream via Probabilistic Prediction Using Generalized GEBI</td>
<td>Koki Sakata¹, Shota Sakashita¹, Kazuya Matsuo¹, Shuichi Kurogi¹</td>
<td>¹Kyushu Institute of Technology</td>
</tr>
<tr>
<td>Probabilistic Prediction for Text-Prompted Speaker Verification Capable of Accepting Spoken Words with the Same Meaning but Different Pronunciations</td>
<td>Shota Sakashita¹, Satoshi Takeguchi¹, Kazuya Matsuo¹, Shuichi Kurogi¹</td>
<td>¹Kyushu Institute of Technology</td>
</tr>
<tr>
<td>Title</td>
<td>Authors</td>
<td>Affiliations</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Segment-Level Probabilistic Sequence Kernel based Support Vector Machines for Classification of Varying Length Patterns of Speech</td>
<td>Shikha Gupta¹, Veena Thenkanidiyoor², Dileep A.D¹</td>
<td>¹IIT Mandi, H.P India  ²Department of CSE, National Institute of Technology Goa, Ponda, Goa, India</td>
</tr>
<tr>
<td>Attention Estimation for Input Switch in Scalable Multi-Display Environments</td>
<td>Xingyuan Bu¹, Mingtao Pei¹, Yunde Jia¹</td>
<td>¹Beijing Institute of Technology</td>
</tr>
<tr>
<td>Deep Dictionary Learning vs Deep Belief Network vs Stacked Autoencoder: An Empirical Analysis</td>
<td>Vanika Singhal¹, Anupriya Gogna¹, Angshul Majumdar¹</td>
<td>¹IIT Delhi</td>
</tr>
<tr>
<td>Bi-directional LSTM Recurrent Neural Network for Chinese Word Segmentation</td>
<td>Yushi Yao¹, Zheng Huang¹</td>
<td>¹Shanghai Jiaotong University</td>
</tr>
<tr>
<td>Alternating optimization method based on nonnegative matrix factorizations for deep neural networks</td>
<td>Tetsuya Sakurai¹, Akira Imakura¹, Yuto Inoue¹, Yasunori Futamura¹</td>
<td>¹University of Tsukuba</td>
</tr>
<tr>
<td>Fissionable Deep Neural Network</td>
<td>DongXu Tan¹, JunMin Wu², HuanXin Zheng³, Yan Yin³, YaXin Liu¹</td>
<td>¹School of Software Engineering of USTC  ²Suzhou Institute for Advanced Study of USTC  ³Department of Computer Science and Technology of USTC</td>
</tr>
<tr>
<td>A Structural Learning Method of Restricted Boltzmann Machine by Neuron Generation and Annihilation Algorithm</td>
<td>Shin Kamada¹, Takumi Ichimura²</td>
<td>¹Graduate School of Information Sciences, Hiroshima City University, Japan  ²Faculty of Management and Information Systems, Prefectural University of Hiroshima, Japan</td>
</tr>
</tbody>
</table>
Semi-supervised Learning for Convolutional Neural Networks using Mild Supervisory Signals
Takashi Shinozaki
1NICT CiNet

On the Singularity in Deep Neural Networks
Tohru Nitta
1National Institute of Advanced Industrial Science and Technology

A Deep Neural Network Architecture Using Dimensionality Reduction with Sparse Matrices
Wataru Matsumoto1, Manabu Hagiwara2, Petros Boufounos3, Kunihiko Fukushima1,4, Toshisada Mariyama3, Zhao Xiongxin1
1Mitsubishi Electric Corporation, Information Technology R&D Center, Kanagawa, Japan 2Chiba University, Chiba, Japan 3Mitsubishi Electric Research Laboratories, Cambridge, MA, USA 4Fuzzy Logic System Institute, Fukuoka, Japan.

Noisy Softplus: A Biology Inspired Activation Function
Qian Liu1, Steve Furber1
1University of Manchester

Compressing Word Embeddings
Martin Andrews1
1Red Cat Labs
October 19 (Wednesday)

<table>
<thead>
<tr>
<th>Plenary 3</th>
<th>Clock Tower Centennial Hall</th>
<th>9:30 – 10:20</th>
</tr>
</thead>
<tbody>
<tr>
<td>chair:</td>
<td>Ko Sakai</td>
<td></td>
</tr>
<tr>
<td>DecNef:</td>
<td>tool for revealing brain-mind causal relation</td>
<td>Mitsuo Kawato</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director, ATR Brain Information Communication Research Laboratory Group</td>
</tr>
</tbody>
</table>
# Wednesday AM

**WedAM-1 Brain-machine interface**  
Chair: Bao-Liang Lu, Kazushi Ikeda  
Room: International Conference Hall I

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40 - 11:00</td>
<td>Emotion Recognition Using Multimodal Deep Learning</td>
<td>Wei Liu¹, Wei-Long Zheng¹, Bao-Liang Lu¹</td>
<td>¹Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>Continuous Vigilance Estimation using LSTM Neural Networks</td>
<td>Nan Zhang¹, Wei-Long Zheng¹, Wei Liu¹, Bao-Liang Lu¹</td>
<td>¹Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>Motor Priming as a Brain-computer Interface</td>
<td>Tom Stewart¹, Kiyoshi Hoshino¹, Andrzej Cichocki², Tomasz Rutkowski³</td>
<td>¹University of Tsukuba  ²RIKEN Brain Science Institute  ³The University of Tokyo</td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>Discriminating Object from Non-Object Perception in a Visual Search Task by Joint Analysis of Neural and Eyetracking Data</td>
<td>Andrea Finke¹, Helge Ritter¹</td>
<td>¹Bielefeld University</td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>Assessing the Properties of Single-Trial Fixation-Related Potentials in a Complex Choice Task</td>
<td>Dennis Wobrock¹, Andrea Finke²</td>
<td>¹CITEC Bielefeld  ²Bielefeld University</td>
</tr>
<tr>
<td>Time</td>
<td>Presentation</td>
<td>Authors</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| 10:40    | Unconstrained face detection from a mobile source using convolutional neural  | Shonal Chaudhry\(^1\), Rohitash Chandra\(^2\)  
|          | networks                                                                     | \(^1\)Artificial Intelligence and Cybernetics Research Group  
|          |                                                                               | \(^2\)Nanyang Technological University                                   |
| 11:00    | Driver Face Detection Based on Aggregate Channel Features and Deformable      | Yang Wang\(^1\), Xiaoma Xu\(^2\), Mingtao Pei\(^1\)  
|          | Part-Based Model in Traffic Camera                                            | \(^1\)Beijing Institute of Technology  
|          |                                                                               | \(^2\)PetroChina                                                          |
| 11:20    | Segmentation with Selectively Propagated Constraints                          | Peng Han\(^1\), Guangzhen Liu\(^1\), Songfang Huang\(^2\), Wenwu  
|          |                                                                               | Yuan\(^1\), Zhiwu Lu\(^1\)  
|          |                                                                               | \(^1\)Renmin University of China  
|          |                                                                               | \(^2\)IBM China Research Lab                                               |
| 11:40    | Gaussian-Bernoulli Based Convolutional Restricted Boltzmann Machine for      | Ziqiang Li\(^1\), Xun Cai\(^1\), Ti Liang\(^1\)  
|          | Images Feature Extraction                                                    | \(^1\)Shandong university                                                |
| 12:00    | Gaze Movement Control Neural Network Based on Multidimensional Topographic   | Wenqi Zhong\(^1\), Jun Miao\(^1\), Laiyun Qing\(^2\)  
|          | Class Grouping                                                               | \(^1\)Institute of Computing Technology, Chinese Academy of Sciences  
<p>|          |                                                                               | (^2)University of Chinese Academy of Sciences                         |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40</td>
<td>Kernel l1-minimization: Application to Kernel Sparse Representation based Classification</td>
<td>Anupriya Gogna¹, Angshul Majumdar¹</td>
<td>IIIT Delhi</td>
</tr>
<tr>
<td>11:00</td>
<td>Nuclear Norm Regularized Randomized Neural Network</td>
<td>Anupriya Gogna¹, Angshul Majumdar¹</td>
<td>IIIT Delhi</td>
</tr>
<tr>
<td>11:20</td>
<td>Gram-Schmidt Orthonormalization to the Adaptive ICA Function for Fixing the Permutation Ambiguity</td>
<td>Yoshitatsu Matsuda¹, Kazunori Yamaguchi¹</td>
<td>The University of Tokyo</td>
</tr>
<tr>
<td>11:40</td>
<td>Data Cleaning Using Complementary Fuzzy Support Vector Machine Technique</td>
<td>Ratchakoon Pruengkarn¹, Kok Wai Wong¹, Chun Che Fung¹</td>
<td>Murdoch University</td>
</tr>
<tr>
<td>12:00</td>
<td>Fault-Tolerant Incremental Learning for Extreme Learning Machines</td>
<td>Chi Sing Leung¹, Ho Chun Leung¹, Eric Wong¹</td>
<td>City University of Hong Kong</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>10:40 - 11:00</td>
<td>Chaotic feature selection and reconstruction in time series prediction</td>
<td>Shamina Hussein(^1), Rohitash Chandra(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(^1)The University of the South Pacific (^2)Nanyang Technological University</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>L1/2 Norm Regularized Echo State Network for Chaotic Time Series Prediction</td>
<td>Meiling Xu(^1), Min Han(^1), Shunshoku Kanae(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(^1)Dalian University of Technology (^2)Fukui University</td>
<td></td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>SVD and Text Mining Integrated Approach to Measure Effects of Disasters on Japanese Economics – Effects of the Thai Flooding in 2011–</td>
<td>Yukari Shirota(^1), Yuriko Yano(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(^1)Gakushuin University</td>
<td></td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>Deep Belief Network using Reinforcement Learning and its Applications to Time Series Forecasting</td>
<td>Takaomi Hirata(^1), Takashi Kuremoto(^2), Masanao Obayashi(^1), Shingo Mabu(^2), Kunikazu Kobayashi(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(^1)Yamaguchi University, (^2)Aichi Prefectural University</td>
<td></td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>Neuron-Network Level problem decomposition method for Cooperative Coevolution of Recurrent Networks for Time Series Prediction</td>
<td>Ravneil Nand(^1), Emmenual Reddy(^1), Mohammed Naseem(^1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(^1)University of the South Pacific</td>
<td></td>
</tr>
</tbody>
</table>
### Wednesday PM1

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00 - 14:20</td>
<td>Yet Another Schatten Norm for Tensor Recovery</td>
</tr>
<tr>
<td></td>
<td>Chao Li¹, Lili Guo¹, Yu Tao¹, Jinyu Wang¹, Lin Qi¹, Zheng Dou¹</td>
</tr>
<tr>
<td></td>
<td>¹Harbin Engineering University</td>
</tr>
<tr>
<td>14:20 - 14:40</td>
<td>Memory of reading literature in a hippocampal network model based on theta phase coding</td>
</tr>
<tr>
<td></td>
<td>Naoyuki Sato¹</td>
</tr>
<tr>
<td></td>
<td>¹Future University Hakodate</td>
</tr>
<tr>
<td>14:40 - 15:00</td>
<td>Combining Deep Learning and Preference Learning for Object Tracking</td>
</tr>
<tr>
<td></td>
<td>Shuchao Pang¹, Juan del Coz², Zhezhou Yu¹, Oscar Luaces², Jorge Diez²</td>
</tr>
<tr>
<td></td>
<td>¹College of Computer Science and Technology, Jilin University, China, ²Artificial Intelligence Center, University of Oviedo at Gijón, Spain</td>
</tr>
<tr>
<td>15:00 - 15:20</td>
<td>A Cost-sensitive Learning Strategy for Feature Extraction from Imbalanced Data</td>
</tr>
<tr>
<td></td>
<td>Ali Braytee¹, Wei Liu¹, Paul Kennedy¹</td>
</tr>
<tr>
<td></td>
<td>¹UTS</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>14:00</td>
<td>Incremental Robust Nonnegative Matrix Factorization for Object tracking</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>14:20</td>
<td>High precision direction-of-arrival estimation for wideband signals in environment with interference based on complex-valued neural networks</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>14:40</td>
<td>Content-based Image Retrieval Using Deep Search</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00</td>
<td>Robust Part-Based Correlation Tracking</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15:20</td>
<td>A new Weight Adjusted Particle Swarm Optimization for Real-time Multiple Object Tracking</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>14:00 - 14:20</td>
<td>Character-Aware Convolutional Neural Networks for Paraphrase Identification</td>
</tr>
<tr>
<td>14:20 - 14:40</td>
<td>Learning a Discriminative Dictionary with CNN for Image Classification</td>
</tr>
<tr>
<td>14:40 - 15:00</td>
<td>Online Weighted Multi-Task Feature Selection</td>
</tr>
<tr>
<td>15:00 - 15:20</td>
<td>Multithreading incremental learning scheme for embedded system</td>
</tr>
<tr>
<td>15:20 - 15:40</td>
<td>Hyper-parameter tuning for graph kernels via Multiple Kernel Learning</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 14:00  | **Tutorial** Topological and Graph Based Clustering: Recent Algorithmic Advances
Rushed Kanawati\(^1\), Nistor Grozavu\(^1\)
\(^1\) A3-LIPN, University Sorbonne Paris Cité |
| 15:00  | Parcellating whole brain for individuals by simple linear iterative clustering
Jing Wang\(^1\), Zilan Hu\(^2\), Haixian Wang\(^1\)
\(^1\)Southeast University \(^2\)School of Mathematics and Physics, Anhui University of Technology, Maanshan, Anhui 243002, PR China |
| 15:20  | Overlapping Community Structure Detection of Brain Functional Network Using Non-negative Matrix Factorization
Xuan Li\(^1\), Zilan Hu\(^2\), Haixian Wang\(^1\)
\(^1\)Southeast University \(^2\)School of Mathematics and Physics, Anhui University of Technology, Maanshan, Anhui 243002, PR China |
### Wednesday PM2

**WedPM2-1**  
*Data-Driven Approach for Extracting Latent Features from Multi-Dimensional Data 2*

**Chair:** Toshiaki Omori, Seiichi Ozawa  
**Room:** International Conference Hall I

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 16:00     | **Nonnegative Tensor Train Decompositions for Multi-Domain Feature Extraction and Clustering**  
Namgil Lee¹, Anh-Huy Phan¹, Fengyu Cong², Andrzej Cichocki¹  
¹RIKEN Brain Science Institute ²Dalian University of Technology |
| 16:20     | **Hyper-Parameter Optimization of Sticky HDP-HMM Through an Enhanced Particle Swarm Optimization**  
Jiaxi Li¹, JunFu Yin¹, Yuk Ying Chung¹, Feng Sha¹  
¹University of Sydney |
| 16:40     | **Approximate inference method for dynamic interactions in larger neural populations**  
Christian Donner¹, Hideaki Shimazaki²  
¹Bernstein Center for Computational Neuroscience Berlin ²RIKEN Brain Science Institute |
| 17:00     | **Features learning and transformation based on Deep Autoencoders**  
Eric Janvier¹, Nistor Grozavu², Thierry Couronne¹  
¹Mindlytix ²LIPN, Paris 13 University |
| 17:20     | **t-Distributed Stochastic Neighbor Embedding with Inhomogeneous Degrees of Freedom**  
Jun Kitazono¹, Nistor Grozavu², Nicoleta Rogovschi³, Toshiaki Omori¹, Seiichi Ozawa¹  
¹Kobe University ²LIPN, Paris 13 University ³LIPADE, University of Paris Descartes |

---

1 RIKEN Brain Science Institute  
2 Dalian University of Technology  
3 LIPADE, University of Paris Descartes
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00 - 16:20</td>
<td>Fast Visual Object Tracking Using Convolutional Filters</td>
<td>Mingxuan Di¹ Guang Yang¹ Qinchuan Zhang¹ Kang Fu¹ Hongtao Lu¹</td>
<td>¹Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>16:20 - 16:40</td>
<td>An Effective Approach for Automatic LV Segmentation Based on GMM and ASM</td>
<td>Yurun Ma¹ Deyuan Wang¹ Yide Ma¹ Ruoming Lei¹ Min Dong¹ Kemin Wang¹ Li Wang¹</td>
<td>¹Lanzhou University</td>
</tr>
<tr>
<td>16:40 - 17:00</td>
<td>Position Gradient and Plane Consistency based Feature Extraction</td>
<td>Sujan Chowdhury¹ Brijesh Verma¹ Ligang Zhang¹</td>
<td>¹Central Queensland University</td>
</tr>
<tr>
<td>17:00 - 17:20</td>
<td>Fusion of Multi-View Multi-Exposure Images with Delaunay Triangulation</td>
<td>Hanyi Yu¹ Yue Zhou²</td>
<td>¹Institute of Image Processing and Pattern Recognition, Shanghai Jiao Tong University ²Institute of Image Processing and Pattern Recognition, Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>17:20 - 17:40</td>
<td>Detection of Human Faces using Neural Networks</td>
<td>Mozammel Chowdhury¹ Junbin Gao² Rafiqul Islam¹</td>
<td>¹Charles Sturt University ²University of Sydney, Australia</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>A Corrector for the Sample Mahalanobis Distance Free from Estimating the Population Eigenvalues of Covariance Matrix</td>
<td>Yasuyuki Kobayashi(^1)(^\text{Teikyo University})</td>
<td></td>
</tr>
<tr>
<td>16:20</td>
<td>Online Learning Neural Network for Adaptively Weighted Hybrid Modeling</td>
<td>Shaoming Yang(^1), Yalin Wang(^1), Yongfei Xue(^1), Bei Sun(^1), Bussong Yang(^1)(^\text{Central South University, School of Information Science and Engineering})</td>
<td></td>
</tr>
<tr>
<td>16:40</td>
<td>Semi-supervised Support Vector Machines - a Genetic Algorithm Approach</td>
<td>Gergana Lazarova(^1)(^\text{Sofia University St. Kliment Ohridski})</td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>Hinge Loss Projection for Classification</td>
<td>Syukron Ishaq Alfarozi(^1), Kuntpong Woraratpanya(^1), Kittsuchart Pasupa(^1), Masanori Sugimoto(^2)(^\text{Faculty of Information Technology, King Mongkut’s Institute of Technology Ladkrabang, Hokkaido University})</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Speakers</td>
<td>Affiliations</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>16:00</td>
<td>Collaborative-based multi-scale clustering in very high resolution</td>
<td>Jeremie Sublime, Antoine Cornuëjols, Younes</td>
<td>AgroParisTech, University Paris 13</td>
</tr>
<tr>
<td></td>
<td>satellite Images</td>
<td>Bennani</td>
<td></td>
</tr>
<tr>
<td>16:20</td>
<td>Towards Ontology Reasoning for Topological Cluster Labeling</td>
<td>Hatim Chahdi, Nistor Grozavu</td>
<td>UMR Espace-Dev &amp; LIPN, LIPN, Paris 13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University</td>
</tr>
<tr>
<td>16:40</td>
<td>Overlapping community detection using core label propagation and</td>
<td>Jean-Philippe Attal, Maria Malek, Marc</td>
<td>EISTI : École internationale des sciences</td>
</tr>
<tr>
<td></td>
<td>belonging function</td>
<td>Zolghadri</td>
<td>d’information, SUPMECA</td>
</tr>
<tr>
<td>17:00</td>
<td>A new clustering algorithm for dynamic data</td>
<td>Parisa Rastin, Tong Zhang, Guenael Cabanes</td>
<td>Université Paris 13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Poster Session 2

Poster2-1 : Applications
Room International Conference Hall II

Inferring Users’ Gender from Interests: A Tag Embedding Approach
Peisong Zhu¹, Tieyun Qian¹, Ming Zhong¹, Xuhui Li¹
¹Wuhan University

Fast color quantization via fuzzy clustering
Laszlo Szilagyi¹, Gellert Denesi¹, Calin Enachescu²
¹Sapientia University of Transylvania, Tirgu Mures, Romania
²Budapest University of Technology and Economics, Hungary

Extended Dependency-Based Word Embeddings for Aspect Extraction
Xin Wang¹, Yuanchao Liu¹, Chengjie Sun¹, Ming Liu¹, Xiaolong Wang¹
¹Harbin Institute of Technology

Topological Order Discovery via Deep Knowledge Tracing
Jiani Zhang¹, Irwin King¹
¹the Chinese University of Hong Kong

PTR: Phrase-Based Topical Ranking for Automatic Keyphrase Extraction in Scientific Publications
Minmei Wang¹, Bo Zhao¹, Yihua Huang¹
¹The National Key Laboratory for Novel Software Technology, Department of Computer Science and Technology, Nanjing University, China

Neural Network Based Association Rule Mining from Uncertain Data
Sameen Mansha¹, Zaheer Babar¹, Faisal Kamiran¹, Asim Karim²
¹Information technology University, Punjab, Lahore, Pakistan
²Lahore University of Management Sciences, Pakistan

Analysis and knowledge discovery by means of Self-Organising Maps for Gaia data releases
M. Álvarez¹, Carlos Dafonte¹, Daniel Garabato¹, Minia Manteiga¹
¹University of A Coruna
Computational Model of the Cerebellum and the Basal Ganglia for Interval Timing Learning
Ohki Katakura¹, Tadashi Yamazaki¹
¹The University of Electro-Communications.

Bihemispheric cerebellar spiking network model to simulate acute VOR motor learning
Keiichiro Inagaki¹, Yutaka Hirata¹
¹Chubu University
An Iterative Incremental Learning Algorithm for Complex-Valued Hopfield Associative Memory
Naoki Masuyama¹, Chu Kiong Loo¹
¹University of Malaya

LDA-Based Word Image Representation for Keyword Spotting on Historical Mongolian Documents
Hongxi Wei¹, Guanglai Gao¹, Xiangdong Su¹
¹Inner Mongolia University

Solving the Vanishing Information Problem with Repeated Potential Mutual Information Maximization
Ryotaro Kamimura¹
¹Tokai University

Self-Organization on a Sphere with Application to Topological Ordering of Chinese Characters
Andrew Paplinski¹
¹Monash University

A Spectrum Allocation Algorithm Based on Optimization and Protection in Cognitive Radio Networks
Jing Gao¹, Jianyu Lv¹, Song Xin¹
¹Northeastern University

A Conjugate Gradient-based Efficient Algorithm for Training Single Hidden Layer Neural Networks
Xiaoling Gong¹, Jian Wang¹
¹China University of Petroleum

The Ability of Learning Algorithms for Fuzzy Inference Systems using Vector Quantization
Hirofumi Miyajima¹, Noritaka Shigei², Hiromi Miyajima²
¹Nagasaki University ²Kagoshima University
An improved multi-strategy ensemble artificial bee colony algorithm with neighborhood search
Xinyu Zhou¹, Mingwen Wang¹, Jianyi Wan¹, Jiali Zuo¹
¹Jiangxi Normal University

Gender-Specific Classifiers in Phoneme Recognition and Academic Emotion Detection
Judith Azcarraga¹, Arnulfo Azcarraga¹, Arces Talavera¹
¹De La Salle University

Local Invariance Representation Learning Algorithm With Multi-Layer Extreme Learning Machine
Xibin Jia¹, Xiaobo Li¹, Hua Du¹, Bir Bhanu²
¹Beijing University of Technology  ²University of California Riverside

Two-dimensional Soft Linear Discriminant Projection for Robust Image Feature Extraction and Recognition
Yu Tang¹, Zhao Zhang¹, Yan Zhang¹
¹Soochow University

Asymmetric Synaptic Connections in Z(2) Gauge Neural Network
Atsutomo Murai¹, Tetsuo Matsui¹
¹Kindai University

SOMphony: Visualizing Symphonies using Self Organizing Maps
Arnulfo Azcarraga¹, Fritz Kevin Flores¹
¹De La Salle University

Online EM for the Normalized Gaussian Network with Weight-Time-Dependent Updates
Jana Backhus¹, Ichigaku Takigawa¹, Hideyuki Imai¹, Mineichi Kudo¹, Masanori Sugimoto¹
¹Hokkaido University
Learning Phrase Representations Based on Word and Character Embeddings
Jiangping Huang¹, Donghong Ji¹, Shuxin Yao², Wenzhi Huang¹, Bo Chen¹
¹Wuhan University  ²Carnegie Mellon University

A Mobile-Based Obstacle Detection Method: Application to the Assistance of Visually Impaired People
Manal Alshehri¹, Salma Kammoun Jarraya², Hanene Ben-Abdallah²
¹Faculty of Computing and Information Technology, King Abdulaziz University, Jeddah, Saudi Arabia  ²Faculty of Computing and Information Technology, King Abdulaziz University, Jeddah, Saudi Arabia, MIRACL Laboratory

t-SNE based Visualisation and Clustering of Geological Domain
Mehala Balamurali¹, Arman Melkumyan¹
¹University of Sydney

Data-based Optimal Tracking Control of Nonaffine Nonlinear Discrete-time Systems
Biao Luo¹, Derong Liu², Tingwen Huang³, Chao Li¹
¹Institute of Automation, Chinese Academy of Sciences  ²University of Science and Technology Beijing  ³Texas A&M University at Qatar

Parallel Learning for Combined Knowledge Acquisition Model
Kohei Henmi¹, Motonobu Hattori¹
¹University of Yamanashi

Emergence of Higher Exploration in Reinforcement Learning using a Chaotic Neural Network
Yuki Goto¹, Katsunari Shibata¹
¹Oita University

Time series classification based on multi-codebook important time subsequence approximation algorithm
Zhiwei Tao¹, Li Zhang¹, Bangjun Wang¹, Fanzhang Li¹
¹Soochow University

Performance Improvement via Bagging in Ensemble Prediction of Chaotic Time Series Using Similarity of Attractors and LOOCV Predictable Horizon
Mitsuki Toidani¹, Kazuya Matsuo¹, Shuichi Kurogi¹
¹Kyushu Institute of Technology
A review of EEG Signal Simulation methods
Ibrahima Faye¹, Muhammad Izhan Noorzi¹
¹Universiti Teknologi PETRONAS

A New Blind Image Quality Assessment Based on Pairwise
Jianbin Jiang¹, Yue Zhou¹, Liming He¹
¹Institute of Image Processing and Pattern Recognition, Shanghai Jiao Tong University

Self-organizing maps as feature detectors for supervised neural network pattern recognition
Macario II Cordel¹, Arren Matthew Antioquia¹, Arnulfo Azcarraga¹
¹De La Salle University

A Review of Electroencephalogram-based Analysis and Classification Frameworks for Dyslexia
Harshani Perera¹, Mohd Fairuz Shiratuddin¹, Kok Wai Wong¹
¹Murdoch University

Rule-Based Grass Biomass Classification for Roadside Fire Risk Assessment
Ligang Zhang¹, Brijesh Verma¹
¹Central Queensland University

Efficient Recognition of Attentional Bias using EEG data and the NeuCube Evolving Spatio-Temporal Data Machine
Zohreh Gholami Doborjeh¹, Maryam Gholami Doborjeh¹, Nikola Kasabov¹
¹Auckland University of Technology
October 20 (Thursday)

<table>
<thead>
<tr>
<th>Plenary 4</th>
<th>Clock Tower Centennial Hall</th>
<th>9:30 – 10:20</th>
</tr>
</thead>
<tbody>
<tr>
<td>chair:</td>
<td>Shin Ishii</td>
<td></td>
</tr>
</tbody>
</table>

**Neural nets and the connectome**
Sebastian Seung
Neuroscience Institute and Computer Science Dept., Princeton University
## Thursday AM

**ThuAM-1  Reinforcement learning**  
Chair: Derong Liu, Junichiro Yoshimoto  
Room: International Conference Hall I

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
</table>
| 10:40 - 11:00 | Decentralized Stabilization for Nonlinear Systems with Unknown Mismatched Interconnections | Bo Zhao\(^1\), Ding Wang\(^1\), Guang Shi\(^1\), Derong Liu\(^2\), Yuanchun Li\(^3\) | \(^1\)Institute of Automation, Chinese Academy of Sciences  
\(^2\)University of Science and Technology Beijing  
\(^3\)Changchun University of Technology |
| 11:00 - 11:20 | Optimal Constrained Neuro-Dynamic Programming Based Self-Learning Battery Management in Microgrids | Qinglai Wei\(^1\), Derong Liu\(^2\) | \(^1\)Institute of Automation, Chinese Academy of Sciences  
\(^2\)University of Science and Technology Beijing |
| 11:20 - 11:40 | Risk sensitive reinforcement learning scheme is suitable for learning on a budget | Kazuyoshi Kato\(^1\), Koichiro Yamauchi\(^1\) | \(^1\)Chubu University |
| 11:40 - 12:00 | A Kernel-Based Sarsa(\(\lambda\)) Algorithm with Clustering-Based Sample Sparsification | Haijun Zhu\(^1\), Fei Zhu\(^2\), Yuchen Fu\(^2\), Quan Liu\(^2\), Jianwei Zhai\(^2\), Cijia Sun\(^3\), Peng Zhang\(^2\) | \(^1\)School of Computer Science & Technology, Soochow University  
\(^2\)School of Computer Science & Technology, Soochow University  
\(^3\)School of Computer Science and Technology, Soochow University |
| 12:00 - 12:20 | Sparse Kernel-based Least Squares Temporal Difference with Prioritized Sweeping | Cijia Sun\(^1\), Xinghong Ling\(^1\), Yuchen Fu\(^1\), Quan Liu\(^1\), Haijun Zhu\(^1\), Jianwei Zhai\(^1\), Peng Zhang\(^1\) | \(^1\)School of Computer Science & Technology, Soochow University |

---

---

---

---
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40</td>
<td>Classifying Human Activities with Temporal Extension of Random Forest</td>
<td>Shih Yin Ooi¹, Shing Chiang Tan¹, Wooi Ping Cheah¹</td>
<td>Multimedia University</td>
</tr>
<tr>
<td>11:00</td>
<td>Echo State Network Ensemble for Human Motion Data Temporal Phasing: A Case Study on Tennis Forehands</td>
<td>Boris Bacic¹</td>
<td>Auckland University of Technology</td>
</tr>
<tr>
<td>11:20</td>
<td>Unregistered Bosniak Classification with Multi-phase Convolutional Neural Networks</td>
<td>Myunggi Lee¹, Hyeogjin Lee¹, Jiyong Oh¹, Hak Jong Lee¹, Seung Hyup Kim¹, Nojun Kwak¹</td>
<td>Seoul National University</td>
</tr>
<tr>
<td>11:40</td>
<td>Direct Estimation of Wrist Joint Angular Velocities from Surface EMGs by Using an SDNN Function Approximator F</td>
<td>Kazumasa Horie¹, Atsuo Suemitsu², Tomohiro Tanno¹, Masahiko Morita¹</td>
<td>University of Tsukuba ²Sapporo University of Health Sciences</td>
</tr>
</tbody>
</table>

¹Multimedia University
²Sapporo University of Health Sciences
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40 - 11:00</td>
<td>Vietnamese POS Tagging for Social Media Text</td>
<td>Ngo Xuan Bach(^1), Nguyen Dieu Linh(^1), Tu Minh Phuong(^1)(^1)Posts and Telecommunications Institute of Technology, Vietnam</td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>Scaled Conjugate Gradient Learning for Quaternion-Valued Neural Networks</td>
<td>Calin-Adrian Popa(^1)(^1)Polytechnic University Timisoara</td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>Performance of Qubit Neural Network in Chaotic Time Series Forecasting</td>
<td>Taisei Ueguchi(^1), Nobuyuki Matsui(^1), Teijiro Isokawa(^1)(^1)University of Hyogo</td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>The Evolutionary Process of Image Transition in Conjunction with Box and Strip Mutation</td>
<td>Aneta Neumann(^1), Bradley Alexander(^1), Frank Neumann(^1)(^1)The University of Adelaide, School of Computer Science, Faculty of Engineering, Computer and Mathematical Science</td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>A preliminary model for understanding how life experiences generate human emotions and behavioural responses</td>
<td>Irosh Fernando(^1)(^1)University of Newcastle</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>10:40</td>
<td>Semi-Supervised Classification by Nuclear-norm based Transductive Label Propagation</td>
<td>Lei Jia¹, Zhao Zhang¹, Yan Zhang¹</td>
</tr>
<tr>
<td>11:00</td>
<td>Effective and Efficient Multi-label Feature Selection Approaches via Modifying Hilbert-Schmidt Independence Criterion</td>
<td>Jianhua Xu¹</td>
</tr>
<tr>
<td>11:20</td>
<td>Storm Surge Prediction for Louisiana Coast Using Artificial Neural Networks</td>
<td>Qian Wang¹, Jianhua Chen¹, Kelin Hu¹</td>
</tr>
<tr>
<td>11:40</td>
<td>Factorization of Multiple Tensors for Supervised Feature Extraction</td>
<td>Wei Liu¹</td>
</tr>
<tr>
<td>12:00</td>
<td>A Non-linear Label Compression Coding Method Based on Five-layer Auto-encoder for Multi-label Classification</td>
<td>Jiapeng Luo¹, Lei Cao¹, Jianhua Xu¹</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>10:40 - 11:00</td>
<td>Unsupervised Video Hashing by Exploiting Spatio-Temporal Feature</td>
<td>Chao Ma(^1), Yun Gu(^1), Wei Liu(^1), Jie Yang(^1), Xiangjian He(^2)</td>
</tr>
<tr>
<td>11:00 - 11:20</td>
<td>Selective Dropout for Deep Neural Networks</td>
<td>Erik Barrow(^1), Mark Eastwood(^1), Chrisina Jayne(^2)</td>
</tr>
<tr>
<td>11:20 - 11:40</td>
<td>Real-time action recognition in surveillance videos using ConvNets</td>
<td>Sheng Luo(^1), Haojin Yang(^1), Cheng Wang(^1), Xiaoyn Che(^1), Christoph Meinel(^1)</td>
</tr>
<tr>
<td>11:40 - 12:00</td>
<td>An Architecture Design Method of Deep Convolutional Neural Network</td>
<td>Satoshi Suzuki(^1), Hayaru Shouno(^1)</td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>Investigation of the Efficiency of Unsupervised Learning for Multi-task Classification in Convolutional Neural Network</td>
<td>Jonghong Kim(^1), Gil-Jin Jang(^1), Minho Lee(^1)</td>
</tr>
</tbody>
</table>
Thursday PM1

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk 1</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:00</td>
<td>Special talk</td>
<td>Yuji Yamamoto</td>
<td>Research Center of Health, Physical Fitness &amp; Sports, Nagoya University</td>
</tr>
<tr>
<td>13:40</td>
<td>Evaluation of sports performance with novel measurement techniques</td>
<td>Toshitaka Kimura</td>
<td>NTT Communication Science Laboratories</td>
</tr>
<tr>
<td>14:00</td>
<td>Hitting the sweet spot: investigating the neuroscience behind impact control by humans</td>
<td>Ganesh Gowrishankar</td>
<td>CNRS-AIST Joint Robotics Laboratory</td>
</tr>
<tr>
<td>14:20</td>
<td>Brain plasticity in artificial leg athletes</td>
<td>Kento Nakagawa</td>
<td>Graduate School of Arts and Sciences, The University of Tokyo</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
        Syukron Ishaq Alfarozi¹, Noor Akhmad Setiawan², Teguh Bharata Adji², Kuntpong Woraratpanya¹, Kitsuchart Pasupa¹, Masanori Sugimoto³  
        ¹Faculty of Information Technology, King Mongkut’s Institute of Technology Ladkrabang  
        ²Department of Electrical Engineering and Information Technology, Universitas Gadjah Mada  
        ³Hokkaido University |
| 13:40  | Acceleration of word2vec using GPUs  
        Seulki Bae¹, Youngmin Yi¹  
        ¹University of Seoul |
| 14:00  | Automatic design of neural network structures using AiS  
        Toshisada Mariyama¹, Kumihiro Fukushima¹, Wataru Matsumoto¹  
        ¹Mitsubishi Electric |
| 14:20  | Sequential Collaborative Ranking Using (No-)Click Implicit Feedback  
        Frédéric Guillou¹, Romaric Gaudel¹, Philippe Preux¹  
        ¹Inria, Univ. Lille, CNRS, France  
        ²Univ. Lille, CNRS, Centrale Lille, Inria, UMR 9189 - CRIStAL, Lille, France |
| 14:40  | Group Information-based Dimensionality Reduction via Canonical Correlation Analysis  
        Haiping Zhu¹, Hongming Shan¹, Youngjoo Lee², Yiwei He¹, Qi Zhou¹, Junping Zhang¹  
        ¹Fudan University  
        ²Samsung Electronics |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:20</td>
<td>Artificial Bee Colony Algorithm Based on Neighboring Information Learning</td>
<td>Laizhong Cui¹, Genghui Li¹, Qizuhen Lin¹, Jianyong Chen¹, Nan Lu¹, Guanjing Zhang²</td>
<td>¹Shenzhen University  ²E-Techco Information Technologies Co., Ltd</td>
</tr>
<tr>
<td>13:40</td>
<td>Data-driven Design of Type-2 Fuzzy Logic System by Merging Type-1 Fuzzy Logic Systems</td>
<td>Chengdong Li¹, Li Wang¹, Zixiang Ding¹, Guiqing Zhang¹</td>
<td>¹Shandong Jianzhu university</td>
</tr>
<tr>
<td>14:00</td>
<td>Memetic cooperative neuro-evolution for chaotic time series prediction</td>
<td>Gary Wong¹, Rohitash Chandra², Anuraganand Sharma³</td>
<td>¹Software Foundation Fiji  ²Nanyang Technological University  ³The University of the South Pacific</td>
</tr>
<tr>
<td>14:20</td>
<td>SLA Management Framework to Avoid Violation in Cloud</td>
<td>Walayat Hussain¹, Farookh Hussain¹, Omar Hussain²</td>
<td>¹University of Technology Sydney  ²University of New South Wales</td>
</tr>
<tr>
<td>14:40</td>
<td>Pattern Retrieval by Quaternionic Associative Memory with Dual Connections</td>
<td>Toshifumi Minemoto¹, Teijiro Isokawa¹, Masaki Kobayashi², Haruhiko Nishimura¹, Nobuyuki Matsui¹</td>
<td>¹University of Hyogo  ²University of Yamanashi</td>
</tr>
</tbody>
</table>
**ThuPM1-4  Data Mining 2**
Chair: Jianhua Xu  
Room: Conference Room III

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:20  - 13:40</td>
<td>Fast Agglomerative Information Bottleneck based Trajectory Clustering</td>
<td>Yuejun Guo(^1), Qing Xu(^1), Yang Fan(^1), Sheng Liang(^1), Mateu Sbert(^2)</td>
<td>Tianjin University, Universitat de Girona</td>
</tr>
<tr>
<td>13:40  - 14:00</td>
<td>Anomaly Detection using Correctness Matching through a Neighborhood Rough Set</td>
<td>Pey Yun Goh(^1), Shing Chiang Tan(^1), Wooi Ping Cheah(^1)</td>
<td>Multimedia University</td>
</tr>
<tr>
<td>14:00  - 14:20</td>
<td>Learning Class-informed Semantic Similarity</td>
<td>Tinghua Wang(^1), Wei Li(^1)</td>
<td>Gannan Normal University</td>
</tr>
<tr>
<td>14:20  - 14:40</td>
<td>Aggregated Temporal Tensor Factorization Model for Point-of-interest Recommendation</td>
<td>Shenglin Zhao(^1), Michael Lyu(^1), Irwin King(^1)</td>
<td>The Chinese University of Hong Kong</td>
</tr>
<tr>
<td>14:40  - 15:00</td>
<td>Multilevel-Multigroup Analysis by the Hierarchical Tensor SOM Network</td>
<td>Hideaki Ishibashi(^1), Ryota Shinriki(^1), Hirohisa Isogai(^1), Tetsuo Furukawa(^1)</td>
<td>Kyushu Institute of Technology</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
<td>Presenters</td>
<td>Affiliations</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>13:20</td>
<td>Sparse Auto-encoder with Smoothed l1 Regularization</td>
<td>Li Zhang¹, Yaping Lu¹, Zhao Zhang¹, Bangjun Wang¹, Fanzhang Li¹</td>
<td>Soochow University</td>
</tr>
<tr>
<td>13:40</td>
<td>Encoding Multi-resolution Two-stream CNNs for Action Recognition</td>
<td>Xue Weichen¹, Zhao Haohua¹, Zhang Liqing¹</td>
<td>Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>14:00</td>
<td>Improving Neural Network Generalization by Combining Parallel Circuits with Dropout</td>
<td>Kien Tuong Phan¹, Tomas Henrique Maul¹, Tuong Thuy Vu¹, Weng Kin Lai²</td>
<td>University of Nottingham Malaysia Campus ²Tunku Abdul Rahman University College</td>
</tr>
<tr>
<td>14:20</td>
<td>Multiple Pregrasping Poses Prediction Using Combining Deep Convolutional Neural Network and Mixture Density Network</td>
<td>Youngbin Park¹, Sungphill Moon¹, Il-Hong Suh¹</td>
<td>Hanyang university</td>
</tr>
<tr>
<td>14:40</td>
<td>Recurrent Neural Networks for Adaptive Feature Acquisition</td>
<td>Gabriella Contardo¹, Ludovic Denoyer¹, Thierry Artieres²</td>
<td>Sorbonne Universities, UPMC Univ Paris 06, UMR 7606, LIP6, F-75005, Paris ²Aix Marseille Univ, CNRS, Centrale Marseille, LIF, Marseille, France</td>
</tr>
</tbody>
</table>
### Thursday PM2

**ThuPM2-1**  
**Novel Approaches of Systems Neuroscience to Sports and Rehabilitation Workshop 2**

*Chair: Yasuharu Koike, Eiichi Naito, Toshitaka Kimura*  
*Room: International Conference Hall I*

<table>
<thead>
<tr>
<th>Time</th>
<th>Talk</th>
<th>Speaker(s) and Affiliation</th>
</tr>
</thead>
</table>
| 15:00  - 15:20 | Talk 4 | Imaging human central motor system in children  
Eiichi Naito¹  
¹Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology (NICT) |
| 15:20  - 15:40 | Talk 5 | Development of VR platform for cloud-based neurorehabilitation  
Tetsunari Inamura¹  
¹National Institute of Informatics; The Graduate University for Advanced Studies |
| 15:40  - 16:00 | Talk 6 | Function of the meso-limbic system in motor control  
Michiaki Suzuki¹  
¹Graduate school of Medicine, Kyoto University; School of Life Science, SOKENDAI |
| 16:00  - 16:20 | Talk 7 | Induction of embodiment of a prosthesis into the body  
Noritaka Kawashima¹  
¹Research Institute, National Rehabilitation Center for Persons with Disabilities |
| 16:20  - 16:40 | Talk 8 | Muscle synergy analysis for motor control  
Yasuharu Koike¹  
¹Institute of Innovative Research, Tokyo Institute of Technology |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:20</td>
<td>Compound PDE-based Image Restoration Algorithm using Second-order and Fourth-order Diffusions</td>
</tr>
<tr>
<td></td>
<td>Tudor Barbu&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;sup&gt;1&lt;/sup&gt;Institute of Computer Science of the Romanian Academy</td>
</tr>
<tr>
<td>15:40</td>
<td>Multi-Swarm Particle Grid Optimization for Object Tracking</td>
</tr>
<tr>
<td></td>
<td>Feng Sha&lt;sup&gt;1&lt;/sup&gt;, Henry Fung Yeung&lt;sup&gt;1&lt;/sup&gt;, Yuk Ying Chung&lt;sup&gt;2&lt;/sup&gt;, Guang Liu&lt;sup&gt;1&lt;/sup&gt;, Prof. Wei-Chang Yeh&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;sup&gt;1&lt;/sup&gt;University of Sydney  &lt;sup&gt;2&lt;/sup&gt;the University of Sydney  &lt;sup&gt;3&lt;/sup&gt;National Tsing Hua University, Taiwan</td>
</tr>
<tr>
<td>16:00</td>
<td>Energy-based multi-plane detection from 3D point clouds</td>
</tr>
<tr>
<td></td>
<td>Liang Wang&lt;sup&gt;1&lt;/sup&gt;, Chao Shen&lt;sup&gt;1&lt;/sup&gt;, Fuqing Duan&lt;sup&gt;2&lt;/sup&gt;, Ping Guo&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;sup&gt;1&lt;/sup&gt;Beijing University of Technology  &lt;sup&gt;2&lt;/sup&gt;Beijing Normal University</td>
</tr>
<tr>
<td>16:20</td>
<td>Bi-Lp-Norm Sparsity Pursuiting Regularization for Blind Motion Deblurring</td>
</tr>
<tr>
<td></td>
<td>Wanlin Gan&lt;sup&gt;1&lt;/sup&gt;, Yue Zhou&lt;sup&gt;2&lt;/sup&gt;, Liming He&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;sup&gt;1&lt;/sup&gt;Shanghai Jiao Tong University  &lt;sup&gt;2&lt;/sup&gt;Institute of Image Processing and Pattern Recognition, Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>15:20</td>
<td>A GPU Implementation of a Bat Algorithm Trained Neural Network</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15:40</td>
<td>Investigating a dictionary-based non-negative matrix factorization</td>
</tr>
<tr>
<td></td>
<td>in superimposed digits classification tasks</td>
</tr>
<tr>
<td>16:00</td>
<td>A Swarm Intelligence Algorithm Inspired by Twitter</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>16:20</td>
<td>Collaborative Filtering, Matrix Factorization &amp; Population Based</td>
</tr>
<tr>
<td></td>
<td>Search: The Nexus Unveiled</td>
</tr>
<tr>
<td>16:40</td>
<td>Adaptive Hausdorff Distances and Tangent Distance Adaptation</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>15:20 - 15:40</td>
<td>A Wavelet Deep Belief Network-based Classifier for Medical Images</td>
</tr>
<tr>
<td>15:40 - 16:00</td>
<td>Bayesian Neural Networks Based Bootstrap Aggregating for Tropical Cyclone Tracks Prediction in South China Sea</td>
</tr>
<tr>
<td>16:00 - 16:20</td>
<td>Credit Card Fraud Detection Using Convolutional Neural Networks</td>
</tr>
<tr>
<td>16:20 - 16:40</td>
<td>An Efficient Data Extraction Framework for Mining Wireless Sensor Networks</td>
</tr>
<tr>
<td>16:40 - 17:00</td>
<td>Incorporating Prior Knowledge Into Context-Aware Recommendation</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>15:20</td>
<td>Stacked Robust Autoencoder for Classification</td>
</tr>
<tr>
<td>15:40</td>
<td>Pedestrian Detection using deep channel features in monocular image sequences</td>
</tr>
<tr>
<td>16:00</td>
<td>Heterogeneous Multi-task Learning on Non-Overlapping Datasets for Facial Landmark Detection</td>
</tr>
<tr>
<td>16:20</td>
<td>Fuzzy string matching using sentence embedding algorithms</td>
</tr>
<tr>
<td>16:40</td>
<td>Initializing Deep Learning based on Latent Dirichlet Allocation for Document Classification</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>17:30</td>
<td>Tea Ceremony &amp; Maiko Greetings</td>
</tr>
<tr>
<td>18:30</td>
<td>Banquet &amp; APNNS Regular Meeting of Members</td>
</tr>
</tbody>
</table>