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# Neural Information Processing

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# Preface

ICONIP 2017 – the 24th International Conference on Neural Information Processing – was held in Guangzhou, China, continuing the ICONIP conference series, which started in 1994 in Seoul, South Korea. Over the past 24 years, ICONIP has been held in Australia, China, India, Japan, Korea, Malaysia, New Zealand, Qatar, Singapore, Thailand, and Turkey. ICONIP has now become a well-established, popular and high-quality conference series on neural information processing in the region and around the world. With the growing popularity of neural networks in recent years, we have witnessed an increase in the number of submissions and in the quality of papers. Guangzhou, Romanized as Canton in the past, is the capital and largest city of southern China's Guangdong Province. It is also one of the five National Central Cities at the core of the Pearl River Delta. It is a key national transportation hub and trading port. November is the best month in the year to visit Guangzhou with comfortable weather. All participants of ICONIP 2017 had a technically rewarding experience as well as a memorable stay in this great city.

A neural network is an information processing structure inspired by biological nervous systems, such as the brain. It consists of a large number of highly interconnected processing elements, called neurons. It has the capability of learning from example. The field of neural networks has evolved rapidly in recent years. It has become a fusion of a number of research areas in engineering, computer science, mathematics, artificial intelligence, operations research, systems theory, biology, and neuroscience. Neural networks have been widely applied for control, optimization, pattern recognition, image processing, signal processing, etc.

ICONIP 2017 aimed to provide a high-level international forum for scientists, researchers, educators, industrial professionals, and students worldwide to present state-of-the-art research results, address new challenges, and discuss trends in neural information processing and applications. ICONIP 2017 invited scholars in all areas of neural network theory and applications, computational neuroscience, machine learning, and others.

The conference received 856 submissions from 3,255 authors in 56 countries and regions across all six continents. Based on rigorous reviews by the Program Committee members and reviewers, 563 high-quality papers were selected for publication in the conference proceedings. We would like to express our sincere gratitude to all the reviewers for the time and effort they generously gave to the conference. We are very grateful to the Institute of Automation of the Chinese Academy of Sciences, Guangdong University of Technology, South China University of Technology, Springer's *Lecture Notes in Computer Science* (LNCS), *IEEE/CAA Journal of Automatica Sinica* (JAS), and the Asia Pacific Neural Network Society (APNNS) for their financial support. We would also like to thank the publisher, Springer, for their cooperation in

publishing the proceedings in the prestigious LNCS series and for sponsoring the best paper awards at ICONIP 2017.

September 2017

Derong Liu  
Shengli Xie  
Yuanqing Li  
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El-Sayed M. El-Alfy



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# Contents

## Deep Learning

Tree-Structure CNN for Automated Theorem Proving . . . . .	3
<i>Kebin Peng and Dianfu Ma</i>	
Training Deep Autoencoder via VLC-Genetic Algorithm . . . . .	13
<i>Qazi Sami Ullah Khan, Jianwu Li, and Shuyang Zhao</i>	
Training Very Deep Networks via Residual Learning with Stochastic Input Shortcut Connections . . . . .	23
<i>Oyebade K. Oyedotun, Abd El Rahman Shabayek, Djamila Aouada, and Björn Ottersten</i>	
Knowledge Memory Based LSTM Model for Answer Selection . . . . .	34
<i>Weijie An, Qin Chen, Yan Yang, and Liang He</i>	
Breast Cancer Malignancy Prediction Using Incremental Combination of Multiple Recurrent Neural Networks . . . . .	43
<i>Dehua Chen, Guangjun Qian, Cheng Shi, and Qiao Pan</i>	
TinyPoseNet: A Fast and Compact Deep Network for Robust Head Pose Estimation . . . . .	53
<i>Shanru Li, Liping Wang, Shuang Yang, Yuanquan Wang, and Chongwen Wang</i>	
Two-Stage Temporal Multimodal Learning for Speaker and Speech Recognition. . . . .	64
<i>Qianli Ma, Lifeng Shen, Ruishi Su, and Jieyu Chen</i>	
SLICE: Structural and Label Information Combined Embedding for Networks . . . . .	73
<i>Yiqi Chen and Tiejun Qian</i>	
An Ultrasonic Image Recognition Method for Papillary Thyroid Carcinoma Based on Depth Convolution Neural Network . . . . .	82
<i>Wei Ke, Yonghua Wang, Pin Wan, Weiwei Liu, and Hailiang Li</i>	
An STDP-Based Supervised Learning Algorithm for Spiking Neural Networks. . . . .	92
<i>Zhanhao Hu, Tao Wang, and Xiaolin Hu</i>	

An End-to-End Approach for Bearing Fault Diagnosis Based on a Deep Convolution Neural Network . . . . . 101  
*Liang Chen, Yuxuan Zhuang, Jinghua Zhang, and Jianming Wang*

Morph-CNN: A Morphological Convolutional Neural Network for Image Classification . . . . . 110  
*Dorra Mellouli, Tarek M. Hamdani, Mounir Ben Ayed, and Adel M. Alimi*

Combating Adversarial Inputs Using a Predictive-Estimator Network. . . . . 118  
*Jeff Orchard and Louis Castricato*

A Parallel Forward-Backward Propagation Learning Scheme for Auto-Encoders. . . . . 126  
*Yoshihiro Ohama and Takayoshi Yoshimura*

Relation Classification via Target-Concentrated Attention CNNs . . . . . 137  
*Jizhao Zhu, Jianzhong Qiao, Xinxiao Dai, and Xueqi Cheng*

Comparing Hybrid NN-HMM and RNN for Temporal Modeling in Gesture Recognition . . . . . 147  
*Nicolas Granger and Mounim A. el Yacoubi*

Patterns Versus Characters in Subword-Aware Neural Language Modeling. . . . . 157  
*Rustem Takhanov and Zhenisbek Assylbekov*

Hierarchical Attention BLSTM for Modeling Sentences and Documents . . . . . 167  
*Xiaolei Niu and Yuexian Hou*

Bi-Directional LSTM with Quantum Attention Mechanism for Sentence Modeling. . . . . 178  
*Xiaolei Niu, Yuexian Hou, and Panpan Wang*

An Efficient Binary Search Based Neuron Pruning Method for ConvNet Condensation . . . . . 189  
*Boyu Zhang, A.K. Qin, and Jeffrey Chan*

CNN-LSTM Neural Network Model for Quantitative Strategy Analysis in Stock Markets. . . . . 198  
*Shuanglong Liu, Chao Zhang, and Jinwen Ma*

Learning Inverse Mapping by AutoEncoder Based Generative Adversarial Nets . . . . . 207  
*Junyue Luo, Yong Xu, Chenwei Tang, and Jiancheng Lv*

Fast and Accurate Image Super Resolution by Deep CNN with Skip Connection and Network in Network . . . . . 217  
*Jin Yamanaka, Shigesumi Kuwashima, and Takio Kurita*

Generative Moment Matching Autoencoder with Perceptual Loss . . . . . 226  
*Mohammad Ahangar Kiasari, Dennis Singh Moirangthem,  
and Minh Lee*

Three-Means Ternary Quantization . . . . . 235  
*Jie Ding, JunMin Wu, and Huan Wu*

Will Outlier Tasks Deteriorate Multitask Deep Learning? . . . . . 246  
*Sirui Cai, Yuchun Fang, and Zhengyan Ma*

The Effect of Task Similarity on Deep Transfer Learning. . . . . 256  
*Wei Zhang, Yuchun Fang, and Zhengyan Ma*

Exploiting the Tibetan Radicals in Recurrent Neural Network  
for Low-Resource Language Models . . . . . 266  
*Tongtong Shen, Longbiao Wang, Xie Chen, Kuntharrgyal Khysru,  
and Jianwu Dang*

Learning Joint Multimodal Representation Based on Multi-fusion  
Deep Neural Networks. . . . . 276  
*Zepeng Gu, Bo Lang, Tongyu Yue, and Lei Huang*

DeepBIBX: Deep Learning for Image Based Bibliographic Data Extraction . . . 286  
*Akansha Bhardwaj, Dominik Mercier, Andreas Dengel,  
and Sheraz Ahmed*

Bio-Inspired Deep Spiking Neural Network for Image Classification . . . . . 294  
*Jingling Li, Weitai Hu, Ye Yuan, Hong Huo, and Tao Fang*

Asynchronous, Data-Parallel Deep Convolutional Neural Network Training  
with Linear Prediction Model for Parameter Transition . . . . . 305  
*Ikuro Sato, Ryo Fujisaki, Yosuke Oyama, Akihiro Nomura,  
and Satoshi Matsuoka*

Efficient Learning Algorithm Using Compact Data Representation  
in Neural Networks . . . . . 315  
*Masaya Kibune and Michael G. Lee*

Regularizing CNN via Feature Augmentation . . . . . 325  
*Liechuan Ou, Zheng Chen, Jianwei Lu, and Ye Luo*

Effectiveness of Adversarial Attacks on Class-Imbalanced  
Convolutional Neural Networks . . . . . 333  
*Rafael Possas and Ying Zhou*

Sharing ConvNet Across Heterogeneous Tasks . . . . . 343  
*Takumi Kobayashi*

Training Deep Neural Networks for Detecting Drinking Glasses Using Synthetic Images . . . . .	354
<i>Abdul Jabbar, Luke Farrowell, Jake Fountain, and Stephan K. Chalup</i>	
Image Segmentation with Pyramid Dilated Convolution Based on ResNet and U-Net . . . . .	364
<i>Qiao Zhang, Zhipeng Cui, Xiaoguang Niu, Shijie Geng, and Yu Qiao</i>	
Deep Clustering with Convolutional Autoencoders . . . . .	373
<i>Xifeng Guo, Xinwang Liu, En Zhu, and Jianping Yin</i>	
An Incremental Deep Learning Network for On-line Unsupervised Feature Extraction . . . . .	383
<i>Yu Liang, Yi Yang, Furao Shen, Jinxi Zhao, and Tao Zhu</i>	
Compressing Low Precision Deep Neural Networks Using Sparsity-Induced Regularization in Ternary Networks. . . . .	393
<i>Julian Faraone, Nicholas Fraser, Giulio Gambardella, Michaela Blott, and Philip H.W. Leong</i>	
A Feature Learning Approach for Image Retrieval. . . . .	405
<i>Junfeng Yao, Yao Yu, Yukai Deng, and Changyin Sun</i>	
Soft-Margin Softmax for Deep Classification . . . . .	413
<i>Xuezhi Liang, Xiaobo Wang, Zhen Lei, Shengcai Liao, and Stan Z. Li</i>	
Temporal Attention Neural Network for Video Understanding . . . . .	422
<i>Jegyung Son, Gil-Jin Jang, and Minhoo Lee</i>	
Regularized Deep Convolutional Neural Networks for Feature Extraction and Classification. . . . .	431
<i>Khaoula Jayech</i>	
Soccer Video Event Detection Using 3D Convolutional Networks and Shot Boundary Detection via Deep Feature Distance . . . . .	440
<i>Tingxi Liu, Yao Lu, Xiaoyu Lei, Lijing Zhang, Haoyu Wang, Wei Huang, and Zijian Wang</i>	
Very Deep Neural Networks for Hindi/Arabic Offline Handwritten Digit Recognition . . . . .	450
<i>Rolla Almodfer, Shengwu Xiong, Mohammed Mudhsh, and Pengfei Duan</i>	
Layer Removal for Transfer Learning with Deep Convolutional Neural Networks. . . . .	460
<i>Weiming Zhi, Zhenghao Chen, Henry Wing Fung Yueng, Zhicheng Lu, Seid Miad Zandavi, and Yuk Ying Chung</i>	

Music Genre Classification Using Masked Conditional Neural Networks . . . . 470  
*Fady Medhat, David Chesmore, and John Robinson*

Reinforced Memory Network for Question Answering. . . . . 482  
*Anupiya Nugaliyadde, Kok Wai Wong, Ferdous Sohel, and Hong Xie*

Hybrid Deep Learning for Sentiment Polarity Determination  
of Arabic Microblogs . . . . . 491  
*Sadam Al-Azani and El-Sayed M. El-Alfy*

Low Frequency Words Compression in Neural Conversation System. . . . . 501  
*Sixing Wu, Ying Li, and Zhonghai Wu*

A Width-Variable Window Attention Model for Environmental Sensors. . . . . 512  
*Cuiqin Hou, Yingju Xia, Jun Sun, Jing Shang, Ryozo Takasu,  
and Masao Kondo*

Memorizing Transactional Databases Compressively in Deep Neural  
Networks for Efficient Itemset Support Queries. . . . . 521  
*Yi Ji and Yukio Ohsawa*

Offensive Sentence Classification Using Character-Level CNN  
and Transfer Learning with Fake Sentences . . . . . 532  
*Suin Seo and Sung-Bea Cho*

Hierarchical Hybrid Attention Networks for Chinese Conversation  
Topic Classification. . . . . 540  
*Yujun Zhou, Changliang Li, Bo Xu, Jiaming Xu, Jie Cao, and Bo Xu*

Aggregating Class Interactions for Hierarchical Attention  
Relation Extraction . . . . . 551  
*Kaiyu Huang, Si Li, and Guang Chen*

Tensorial Neural Networks and Its Application in Longitudinal  
Network Data Analysis . . . . . 562  
*Mingyuan Bai, Boyan Zhang, and Junbin Gao*

3HAN: A Deep Neural Network for Fake News Detection. . . . . 572  
*Sneha Singhania, Nigel Fernandez, and Shrisha Rao*

Hierarchical Parameter Sharing in Recursive Neural Networks  
with Long Short-Term Memory . . . . . 582  
*Fengyu Li, Mingmin Chi, Dong Wu, and Junyu Niu*

Robust Deep Face Recognition with Label Noise . . . . . 593  
*Jirui Yuan, Wenya Ma, Pengfei Zhu, and Karen Egiazarian*

Weakly-Supervised Dual Generative Adversarial Networks for Makeup-Removal. . . . .	603
<i>Xuedong Hou, Yun Li, and Tao Li</i>	
Analysis of Gradient Degradation and Feature Map Quality in Deep All-Convolutional Neural Networks Compared to Deep Residual Networks . . . . .	612
<i>Wei Gao and Mark D. McDonnell</i>	
Single-Image Super-Resolution for Remote Sensing Data Using Deep Residual-Learning Neural Network . . . . .	622
<i>Ningbo Huang, Yong Yang, Junjie Liu, Xinchao Gu, and Hua Cai</i>	
Layer-Wise Training to Create Efficient Convolutional Neural Networks . . . .	631
<i>Linghua Zeng and Xinmei Tian</i>	
Learning Image Representation Based on Convolutional Neural Networks . . .	642
<i>Zhanbo Yang, Fei Hu, Jingyuan Wang, Jinjing Zhang, and Li Li</i>	
Heterogeneous Features Integration in Deep Knowledge Tracing. . . . .	653
<i>Lap Pong Cheung and Haiqin Yang</i>	
Boxless Action Recognition in Still Images via Recurrent Visual Attention. . . .	663
<i>Weijiang Feng, Xiang Zhang, Xuhui Huang, and Zhigang Luo</i>	
Compositional Sentence Representation from Character Within Large Context Text. . . . .	674
<i>Geonmin Kim, Hwaran Lee, Bokyeong Kim, and Soo-young Lee</i>	
Ultra-deep Neural Network for Face Anti-spoofing . . . . .	686
<i>Xiaokang Tu and Yuchun Fang</i>	
License Plate Detection Using Deep Cascaded Convolutional Neural Networks in Complex Scenes . . . . .	696
<i>Qiang Fu, Yuan Shen, and Zhenhua Guo</i>	
<b>Brain-Computer Interface</b>	
Task-Free Brainprint Recognition Based on Degree of Brain Networks . . . . .	709
<i>Wanzeng Kong, Qiaonan Fan, Luyun Wang, Bei Jiang, Yong Peng, and Yanbin Zhang</i>	
Optimized Echo State Network with Intrinsic Plasticity for EEG-Based Emotion Recognition. . . . .	718
<i>Rahma Fourati, Boudour Ammar, Chaouki Aouiti, Javier Sanchez-Medina, and Adel M. Alimi</i>	



A Computational Investigation of an Active Region in Brain Network Based on Stimulations with Near-Infrared Spectroscopy . . . . . 728  
*Xu Huang, Raul Fernandez Rojas, Allan C. Madoc, Keng-Liang Ou, and Sheikh Md. Rabiul Islam*

An Algorithm Combining Spatial Filtering and Temporal Down-Sampling with Applications to ERP Feature Extraction . . . . . 739  
*Feifei Qi, Yuanqing Li, Zhenfu Wen, and Wei Wu*

Intent Recognition in Smart Living Through Deep Recurrent Neural Networks. . . . . 748  
*Xiang Zhang, Lina Yao, Chaoran Huang, Quan Z. Sheng, and Xianzhi Wang*

Recognition of Voluntary Blink and Bite Base on Single Forehead EMG. . . . . 759  
*Jianhai Zhang, Wenhao Huang, Shaokai Zhao, Yanyang Li, and Sanqing Hu*

Multimodal Classification with Deep Convolutional-Recurrent Neural Networks for Electroencephalography . . . . . 767  
*Chuanqi Tan, Fuchun Sun, Wenchang Zhang, Jianhua Chen, and Chunfang Liu*

An Improved Visual-Tactile P300 Brain Computer Interface. . . . . 777  
*Hongyan Sun, Jing Jin, Yu Zhang, Bei Wang, and Xingyu Wang*

A New Hybrid Feature Selection Algorithm Applied to Driver’s Status Detection . . . . . 786  
*Peng-fei Ye, Lan-lan Chen, and Ao Zhang*

Deep Learning Method for Sleep Stage Classification . . . . . 796  
*Ling Cen, Zhu Liang Yu, Yun Tang, Wen Shi, Tilmann Kluge, and Wee Ser*

Composite and Multiple Kernel Learning for Brain Computer Interface . . . . . 803  
*Minmin Miao, Hong Zeng, and Aimin Wang*

Transfer Learning Enhanced Common Spatial Pattern Filtering for Brain Computer Interfaces (BCIs): Overview and a New Approach . . . . . 811  
*He He and Dongrui Wu*

EEG-Based Driver Drowsiness Estimation Using Convolutional Neural Networks. . . . . 822  
*Yuqi Cui and Dongrui Wu*

Real-Time fMRI-Based Brain Computer Interface: A Review . . . . . 833  
*Yang Wang and Dongrui Wu*

**Computational Finance**

Dynamic Bidding Strategy Based on Probabilistic Feedback  
in Display Advertising . . . . . 845  
*Yuzhu Wu, Shumin Pan, Qianwen Zhang, and Jinkui Xie*

Dempster-Shafer Fusion of Semi-supervised Learning Methods  
for Predicting Defaults in Social Lending . . . . . 854  
*Aleum Kim and Sung-Bae Cho*

Robust Portfolio Risk Minimization Using the Graphical Lasso . . . . . 863  
*Tristan Millington and Mahesan Niranjan*

Non-Negative Matrix Factorization with Exogenous Inputs  
for Modeling Financial Data . . . . . 873  
*Steven Squires, Luis Montesdeoca, Adam Prügel-Bennett,  
and Mahesan Niranjan*

Stacked Denoising Autoencoder Based Stock Market Trend Prediction  
via K-Nearest Neighbour Data Selection . . . . . 882  
*Haonan Sun, Wenge Rong, Jiayi Zhang, Qiubin Liang, and Zhang Xiong*

Ten-Quarter Projection for Spanish Central Government Debt  
via WASD Neuronet . . . . . 893  
*Yunong Zhang, Zhongxian Xue, Mengling Xiao, Yingbiao Ling,  
and Chengxu Ye*

Data Augmentation Based Stock Trend Prediction  
Using Self-organising Map . . . . . 903  
*Jiayi Zhang, Wenge Rong, Qiubin Liang, Haonan Sun, and Zhang Xiong*

Deep Candlestick Mining . . . . . 913  
*Andrew D. Mann and Denise Gorse*

**Author Index** . . . . . 923