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Guang-Tong Zhou

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KeyBridge Team
Oracle Labs
Vancouver, Canada

SKILLS

Programming	• **Matlab** (advanced), **C++** (solid), **JavaScript** (knowledgeable), **Lua+Torch** (knowledgeable)
Machine Learning	• Experienced with **large-scale systems** and **state-of-the-art algorithms**
Computer Vision	• Experienced with **scene understanding**, **video analysis** and **object detection**
Data Mining	• Familiar with **clustering**, **anomaly detection** and **graph analysis**

EDUCATION

Ph.D.	• **Computer Science,** Simon Fraser University, Burnaby, BC, Canada	2015
Master of Science	• **Computer Science**, Shandong University, Jinan, China	2010
Bachelor of Science	• **Computer Science,** Shandong University, Jinan, China	2007

TECHNICAL WORK EXPERIENCE

Senior Researcher — **Oracle Labs**, Vancouver, Canada — Dec 2015-Present

- **Deep learning for network behavior analysis**

Intern — **SAP**, Vancouver, Canada — Sept 2014-May 2015

- **Interactive graph visualization:** implement with JavaScript, UI5, Neo4j, jQuery, d3, SVG, etc.

Intern — **Disney Research**, Pittsburgh, PA, USA — Sept-Dec 2013

- **Scenery part discovery:** implemented MCF solver in C++ to speed up clustering by 100 times

RESEARCH EXPERIENCE

Research Assistant — **Simon Fraser University**, Burnaby, BC, Canada — Jan 2011-Nov 2015

- **Recurrent neural networks:** recognize image labels among concept layers
- **Max-margin clustering:** extend with latent variables and hierarchical structures
- **Scene understanding:** recognize scenes from a collection of objects and surfaces
- **Video event analysis:** discover events in YouTube videos; recognize falling in nursing home videos
- **Anomaly detection:** contextual anomaly detection in categorical relational data
- **Graph analysis:** OLAP for large-scale keyword graphs, e.g., social network, citation graph, etc.
- **Content-based image retrieval:** distance learning to handle relevance feedback

Visiting Student — **Monash University**, Churchill, Vic, Australia — Aug 2009-Feb 2010

- **Mass estimation:** design and apply it for outlier detection, information retrieval and regression

OTHER EXPERIENCE

Teaching Assistant — **Simon Fraser University**, Burnaby, BC, Canada

- Taught **Machine Learning** to 20 undergrad and 50 grad students — Jan-Apr 2011
- Taught **Data Structures and Algorithms** to 85 undergrads — Sept-Dec 2011

Reviewer

- **NIPS**: Neural Information Processing Systems — 2014,2015
- **TPAMI**: IEEE Transactions on Pattern Analysis and Machine Intelligence — 2014
- **TKDD**: ACM Transactions on Knowledge Discovery from Data — 2013

Program Committee

- **IJCAI**: International Joint Conference on Artificial Intelligence — 2013

Web Master

- **ACM SIGKDD Conference 2012** (kdd2012.sigkdd.org) — 2012

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PUBLICATIONS

[CVPR'16] • **Learning Structured Inference Neural Networks with Label Relations**.
Hexiang Hu, Guang-Tong Zhou, Zhiwei Deng, Zicheng Liao and Greg Mori.
IEEE Computer Vision and Pattern Recognition, 2016.

[THESIS'15] • **Toward Scene Recognition by Discovering Semantic Structures and Parts**.
Ph.D. Thesis, Simon Fraser University, 2015.

[ARXIV'15] • **Hierarchical Maximum-Margin Clustering**.
Guang-Tong Zhou, Sung Ju Hwang, Mark Schmidt, Leonid Sigal and Greg Mori.
arXiv:1502.01827, 2015.

[CVPRW'15] • **Discovering Human Interactions in Videos with Limited Data Labeling**.
Mehran Khodabandeh, Arash Vahdat, Guang-Tong Zhou, et al.
Workshop on Group and Crowd Behavior Analysis and Understanding (at CVPR), 2015.

[ECCVW'14] • **Learning Action Primitives for Multi-Level Video Event Understanding**.
Tian Lan, Lei Chen, Zhiwei Deng, Guang-Tong Zhou and Greg Mori.
International Workshop on Visual Surveillance and Re-Identification (at ECCV), 2014.

[ECCV'14] • **Discovering Video Clusters from Visual Features and Noisy Tags**.
Arash Vahdat, Guang-Tong Zhou and Greg Mori.
European Conference on Computer Vision, 2014.

[NIPS'13] • **Latent Maximum Margin Clustering**.
Guang-Tong Zhou, Tian Lan, Arash Vahdat and Greg Mori.
Neural Information Processing Systems, 2013.

[CVPR'13] • **Learning Class-to-Image Distance with Object Matchings**.
Guang-Tong Zhou, Tian Lan, Weilong Yang and Greg Mori.
IEEE Computer Vision and Pattern Recognition, 2013.

[MLJ'13] • **Mass Estimation**.
Kai Ming Ting, Guang-Tong Zhou, Fei Tony Liu and Swee Chuan Tan.
Machine Learning Journal, 90(1):127-160, 2013.

[PR'12] • **Relevance Feature Mapping for Content-Based Multimedia Information Retrieval**.
Guang-Tong Zhou, Kai Ming Ting, Fei Tony Liu and Yilong Yin.
Pattern Recognition, 45(4):1707-1720, 2012.

[KDDW'10] • **Relevance Feature Mapping for Content-Based Image Retrieval**.
Guang-Tong Zhou, Kai Ming Ting, Fei Tony Liu and Yilong Yin.
Workshop on Multimedia Data Mining (at KDD), 2010.

[KDD'10] • **Mass Estimation and Its Applications**.
Kai Ming Ting, Guang-Tong Zhou, Fei Tony Liu and Swee Chuan Tan.
ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2010.

[EJASP'10] • **K-means Based Fingerprint Segmentation with Sensor Interoperability**.
Gongping Yang, Guang-Tong Zhou, Yilong Yin and Xiukun Yang.
EURASIP Journal on Advances in Signal Processing, 2010(1):729378, 2010.