Jin Guo

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Education

2013.1 - Present **DePaul University**, Chicago, United States
Ph.D. in Computer and Information Science
Advisor: Dr. Jane Cleland-Huang
Coursework includes: Artificial Intelligence, Intelligent Information Retrieval, Software Architecture, Software Testing and Quality Assurance.

2006.9 - 2009.6 **Xi'an Jiaotong University**, Xi'an, China
Master of Science in Information and Communication Engineering
Coursework includes: Digital Image Processing, Digital Signal Processing, Mathematical Statistics, Stochastic Process, Pattern Recognition, Computational Method.

2002.9 - 2006.7 **Xi'an Jiaotong University**, Xi'an, China
Bachelor of Science in Information Engineering
Coursework includes: Mathematical Analysis, Discrete Mathematics, Signals and Systems, Data Mining and Knowledge Discovery, Information Theory, Operating System.

Research and Work Experience

2013.1 - present **Research Assistant,** DePaul University, Chicago, United States

- Design and implement platform utilizing natural language processing and data mining techniques including Syntax Analysis, Association Rule Mining, Topic Modeling, etc. to extract domain knowledge supervised by software traceability data. Rank generated domain fact to users for creating domain ontology.
- Design and implement natural language processing algorithm to extract semantic information representing software key functions from software artifacts such as requirement specifications, design descriptions.
- Design knowledge base containing domain specific concepts and relations. Implement algorithm that queries knowledge base for supporting inference during traceability activities.
- Design and implement intelligent domain specific traceability system that could establish accurate trace links between software artifacts and generate the underlying rationales explaining those links.

2009.6 - 2011.7 **Researcher,** Communication Technology Lab, Fuji Xerox Co., Ltd., Japan

- Designed and implemented the image processing algorithm to extract and correct the business card and whiteboard regions from images with complex background.
- Designed and implemented the fuzzy image comparing algorithm. Developed the corresponding application for Windows, Linux, and OS X.
- Implemented new image processing modules and modified existing modules to improve performances for the image processing platform which is used throughout Fuji Xerox.

2007.10 - 2008.8 **Visiting Research Fellow**, Communication Technology Lab, Fuji Xerox Co., Ltd., Japan

- Participated in designing and implementing the "Sensing UI" platform (a novel human-computer interface based on 3D tracking technologies) and took in charge of the image processing module.
- Proposed an improved object model for the current "Sensing UI" prototype and developed its feature extraction algorithm.

Publications & Patents

Guo, J. (2016). Ontology Learning and its Application in Software-Intensive Projects. Accepted to Doctoral Symposium at *the 38th International Conference on Software Engineering*.

Guo, J., Rahimi, M., Cleland-Huang, J., Rasin, A., Hayes J.H., and Vierhauser, M. (2016). Cold-Start Software Analytics. Accepted to *the 13th International Conference on Mining Software Repositories*.

Guo, J., Monaikul, N., and Cleland-Huang, J. (2015). Trace Links Explained: An Automated Approach for Generating Rationales. In Proceedings of the *23st IEEE International Requirements Engineering Conference* (pp. 202–207). IEEE.

Guo, J., Monaikul, N., Plepel, C., and Cleland-Huang, J. (2014). Towards an intelligent domain-specific traceability solution. In Proceedings of the 29th ACM/IEEE international conference on Automated software engineering - ASE '14 (pp. 755–766). New York, New York, USA: ACM Press.

Cleland-Huang, J., Guo, J. (2014). Towards more intelligent trace retrieval algorithms. In Proceedings of the 3rd International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering - RAISE 2014 (pp. 1–6). New York, New York, USA: ACM Press.

Guo, J., Cleland-Huang, J., and Berenbach, B. (2013). Foundations for an expert system in domain-specific traceability. In *21st IEEE International Requirements Engineering Conference* (pp. 42–51). IEEE.

Guo, J., Onishi, T. (2014). Subject region detecting apparatus. U.S. Patent 8,805,077, filed November 8, 2011 and issued August 12, 2014.

Guo, J., Onishi, T. (2014). Image processing apparatus, image processing method, and computer readable medium. U.S. Patent 8,923,610, filed October 31, 2011 and issued December 30, 2014.

Teaching Experience

Design Patterns, Guest Lecturer in SE350: Object-Oriented Software Development, DePaul University, February 2016

Ontology Learning for Software-Intensive Projects, Guest Lecturer in CSC 480: Artificial Intelligence, DePaul University, February 2016

Research Community Activities

2014-2016	**Organizing Committee Member**, 1st, 2nd, and 3rd International Workshop on AIRE
2016	**Program Committee Member**, 5th International Workshop on RAISE, Austin, United States
2015	**Program Committee Member**, 8th International Symposium on SST, Florence, Italy
2015	**Student Volunteer,** 23rd IEEE International RE Conference, Ottawa, Canada
2013	**Student Volunteer**, 19th ACM SIGKDD Conference, Chicago, United States
2012	**Student Volunteer,** 20th IEEE International RE Conference, Chicago, United States

Skills

Computer:
- Programming languages: C/C++, C#, and Java
- Development environments: Visual Studio and Eclipse IDE
- Operating systems: Windows, Linux, and Mac OS X
- Other libraries and tools: Protégé, Octave, OpenCV, GATE, and Qt

Language:
- Proficient in **English** (TOFEL iBT 115/120)
- Intermediate in **Japanese** (three years of working experience in Japan)
- Native **Chinese**