

BA-QUY VUONG

Department of Computer Sciences
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AREAS OF EXPERTISE

Databases, crowdsourcing, information extraction, information integration.

EDUCATION

- Ph.D.** Computer Science, University of Wisconsin-Madison. GPA: 4.0 2009 – 2012
Thesis: *Crowdsourcing the Construction of Structured Web Databases* (expected)
Advisor: AnHai Doan
Minor in Statistics. Minor GPA: 4.0
- M.S.** Computer Science, University of Wisconsin-Madison. GPA: 4.0 2007 – 2009
Thesis: *Efficiently Incorporating User Feedback into Information Extraction and Integration Programs*
Advisor: AnHai Doan
- B.Eng.** Computer Engineering, Nanyang Technological University, Singapore 2003 – 2006
First Class Honors. Dean's List (top 5%) 2003 - 2006

RESEARCH AND WORK EXPERIENCE

University of Wisconsin-Madison, Research Assistant 2008 – present

- Developed methodology and implemented a software platform for efficiently crowdsourcing the construction of structured databases that run on the Web.
- Adopted the above approach to build the next version of DBLife, a Web portal for the database research community, which allows both machines and human users to revise and add materials.
- Designed and implemented a temporal entity-relationship database based on PostgreSQL, which can scale up to thousands of entity/relationship types and tens of thousands of attributes per type.
- Developed a Web tool using Google Web Toolkit to let users edit structured data, which achieved 92% user satisfaction in a user study.

Google Inc., Ads Backend Software Engineer Intern Summer 2011

- Developed a MapReduce-based data importing tool for setting up new tables and importing data into Google's distributed Ads database. This tool eliminates the overhead caused by manual communication among teams and reduces the data loading time by 99.5%.

University of Wisconsin-Madison, Teaching Assistant 2007 – 2008

- Instructed a class of 30 students in the course “Introduction to Programming” using Java.

Nanyang Technological University, Research Assistant 2006 – 2007

- Developed a new algorithm to rank authors' reputations and articles' qualities in Wikipedia, which achieves 82% accuracy relative to human judgement ground truth.

- Designed and implemented an automatic Web tracking system for detecting changes relevant to manually extracted data, which reduces manual effort of examining pages by 98%.
- Developed an algorithm to support real-time structural analysis of handwritten mathematical expressions, which achieves 94.5% accuracy.

Accenture (Singapore), Software Engineer Intern

Fall 2005

- Implemented a management module for the Ministry of Education in Singapore, which manages all student profiles at primary school, secondary school, and junior college levels.

AWARDS

- Won the first prize in “Vietnamese Intelligence 2006”, a national software contest in Vietnam, which attracted ~150 software products. *2007*
- Received “Vietnam Education Foundation Fellowship”, a highly selective fellowship for graduate study in the USA. *2006*
- Won the novelty prize in “Robotic Competition”, a robot design and development contest with 80 participating teams organized by Nanyang Technological University. *2004*

SKILLS

- Java, C/C++, SQL, Perl, HTML, XML, JavaScript, C#.
- MapReduce, Oracle, MySQL, PostgreSQL, Microsoft SQL Server, Matlab, R.

SELECTED PUBLICATIONS

1. Ba-Quy Vuong, Yulan He, and Siu Cheung Hui, “Towards a Web-based Progressive Handwriting Recognition Environment for Mathematical Problem Solving”, *Expert Systems with Applications* 37(1), 2010.
2. Xiaoyong Chai, Ba-Quy Vuong, AnHai Doan, and Jeffrey F. Naughton, “Efficiently Incorporating User Feedback into Information Extraction and Integration Programs”, *Proceedings of the ACM Conference on Management of Data (SIGMOD)*, 2009. (*Acceptance rate = 15.9%*)
3. Ba-Quy Vuong and many other authors, “The Case for a Structured Approach to Managing Unstructured Data”, *Proceedings of the Biennial Conference on Innovative Data Systems Research (CIDR)*, 2009.
4. Ba-Quy Vuong and many other authors, “Information Extraction Challenges in Managing Unstructured Data”, *SIGMOD Record, Special Issue on Managing Information Extraction*, 2008.
5. Ba-Quy Vuong, Siu-Cheung Hui, and Yulan He, “Progressive Structural Analysis for Dynamic Recognition of On-line Handwritten Mathematical Expressions”, *Pattern Recognition Letters* 29(5), 2008.
6. Ba-Quy Vuong, Ee-Peng Lim, Aixin Sun, Minh-Tam Le, and Kuiyu Chang, “On Ranking Controversies in Wikipedia: Models and Evaluation”, *Proceedings of the ACM Int. Conference on Web Search and Data Mining (WSDM)*, 2008. (*Acceptance rate = 16%*)