

Huy V. Nguyen

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Curriculum vitae

Office

LingoChamp US, Inc.
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Home

907 Alameda De Las Pul Gas
Belmont, CA 94002
Mobile: (412) 799-3636

Research Interest

Major areas

Natural language processing • Machine learning • Data mining

Data domains¹

Argumentative writing ◇ Argument diagram ◇ Peer review ◇ Online review

Education

Ph.D. in Computer Science

August 2010 – December 2017

Dissertation: Context-aware Argument Mining and Its Application in Education
University of Pittsburgh, Pittsburgh, PA
GPA 3.98/4

B.S. in Information Technology

September 2002 – May 2007

Thesis: A Parallel Genetic Algorithm for Steiner Tree Problem
Hanoi University of Science and Technology
GPA 8.64/10, Excellent Degree of Engineer

Experience

Research Scientist

February 2018 – onward

LingoChamp US Inc., San Mateo, CA

- Manager: Dr. Yang Liu, Head of Silicone Valley AI Lab.
- Work in an Artificial Intelligence Lab for Educational Applications.
- Research and develop models using Natural Language Processing and Machine Learning to automatically assess English-as-second-language learner responses.

Natural Language Processing Engineer

March 2017 – March 2018

Lenovo Inc., Morrisville, NC

- Manager: Vikram Sharma, Director of Software Engineering.
- Work in Lenovo Contextual Engine (LCE) Project.
- Researched and developed recommendation models based on mining pattern in users' activities to increase user experience with Lenovo products.

Graduate Student Researcher

August 2011 – February 2017

University of Pittsburgh, Pittsburgh, PA

- Academic advisor: Dr. Diane J. Litman, Professor, Computer Science Department.
- Work in SWORD project (sites.google.com/site/swordlrhc/home).
- Researched peer review helpfulness (i.e. localization and solution), and argument mining in student writings.

Research Intern, R&D

June 08 – August 28, 2015

Thomson Reuters Corp., Eagan, MN

- Supervisor: Dr. Frank Schneider, Research Director, R&D.
- Worked in a natural language generation project that aimed to supporting natural language queries to relational databases.

¹In which I have research, but they do not limit what I like to work with.

- Developed a data-driven approach that generates textual captions for each relation in database to enable natural language queries. My approach mined synonyms and paraphrases of keywords and phrases in relation's description, and mined sentential templates that connect key terms/phrases in natural language.

Research Intern, R&D

June 03 – August 23, 2013

Motorola Solutions Inc., Chicago, IL

- Supervisor: Dr. Yan-Ming Cheng, Senior Research Manager, CTO.
- Worked in a spoken dialog project that aimed to supporting natural language queries to relational databases.
- Developed a rule-based approach to convert a relational database schema to a relational ontology in RDF specification, which focused on the semantics between RDB entities and relations.

Visiting Scholar

February – June 2009

University of Houston, TX

- Supervisor: Dr. Marc Garbey, Professor, Computer Science Department.
- Worked in Virtual Prairie project (vcsc.cs.uh.edu/virtual-prairie/).
- Researched and implemented a parallel genetic algorithm framework for a computational ecology problem.

Lecturer

September 2007 – August 2010

Hanoi University of Science and Technology, Vietnam

- Manager: Dr. Nghia Duc Nguyen, Professor, Head of Computer Science Department.
- Worked in Computer Science Department.
- Taught courses including Discrete mathematics, Parallel computing, and Scientific computing.

Computer Skills

Languages:	Java, Python, Matlab, C/C++
NLP Libraries:	Stanford CoreNLP, NLTK, MALLET, OpenNLP, Gensim, GibbsLDA++, SEMILAR, Word2Vec, Glove, Excitement Open Platform, PDTB/RST parsers
Machine Learning:	Scikit-learn, Spark MLlib, Weka, LibSVM, LibLINEAR, Theano, TensorFlow, Matlab
Software & Tools:	Eclipse, MS Visual Studio, Elasticsearch, DynamoDB, MySQL, MSSQL
Parallel computing:	Spark, Hadoop, MPI, OpenMP

Academic Background

Firm background:	Mathematics, Probability & statistics, Discrete mathematics, Algorithms and data structures, Object-oriented design & programming
Practical experience:	Natural language processing, Machine learning, Probabilistic Graphical Models, Neural Networks, Parallel genetic algorithms, Formal grammars and formal languages, Peer review & intelligent tutoring system (SWoRD)

Journal

- ◇ **Huy Nguyen**, Wenting Xiong, and Diane Litman. *Iterative Design and Classroom Evaluation of Automated Instant Feedback for Improving Peer Feedback Localization*. International Journal of Artificial Intelligence in Education (2017), Special Issue: Formative Feedback in Interactive Learning Environments. pp 1–41.

Conference Publications

- ◇ **Huy Nguyen**, Lei Chen, Ramon Prieto, Chuan Wang, and Yang Liu. *Liulishuo's System for the Spoken CALL Shared Task 2018*. The 19th Annual Conference of the International Speech Communication Association, September 2018, India. *First-ranked team*.
- ◇ **Huy Nguyen** & Diane Litman. *Argument Mining for Improving Persuasive Essay Score Prediction*. Proceedings of 32nd AAAI Conference on Artificial Intelligence (AAAI-18), February 2018, New Orleans, Louisiana, USA. Long paper.
- ◇ **Huy Nguyen** & Diane Litman. *Context-aware Argumentative Relation Mining*. Proceedings 54th Annual Meeting of the Association for Computational Linguistics (ACL), August 2016, Berlin, Germany. Long paper.
- ◇ **Huy Nguyen**, Wenting Xiong, and Diane Litman. *Instant Feedback for Increasing the Presence of Solutions in Peer Reviews*. Accepted for a demonstration in NAACL 2016, June 2016, San Diego, CA, USA.
- ◇ **Huy Nguyen** & Diane Litman. *Improving argument mining in student essays by learning and exploiting argument indicators versus essay topics*. The 29th International FLAIRS Conference, May 2016, Key Largo, FL. **Best Student Paper Award**.
- ◇ **Huy Nguyen** & Diane Litman. *Extracting argument and domain words for identifying argument components in texts*. The 2nd Workshop on Argumentation Mining, NAACL-HLT 2015, Denver, CO, 2015.
- ◇ **Huy Nguyen** & Diane Litman. *Improving Peer Feedback Prediction: the Sentence Level Is Right*. The 9th BEA-ACL 2014 Workshop, Baltimore, MD, 2014.
- ◇ **Huy Nguyen**, Wenting Xiong, and Diane Litman. *Classroom Evaluation of a Scaffolding Intervention for Improving Peer Review Localization*. The 12th ITS conference, Honolulu, HI, 2014.
- ◇ **Huy Nguyen** & Diane Litman. *Identifying Localization in Peer Reviews of Argument Diagrams*. The 16th AIED conference, Memphis, TN, 2013.
- ◇ **Huy Nguyen** & Diane Litman. *Predicting Low vs. High Disparity between Peer and Expert Ratings in Peer Reviews of Physics Lab Reports*. The 16th AIED conference, Memphis, TN, 2013.
- ◇ Jesse Thomason, **Huy Nguyen**, and Diane Litman. *Prosodic Entrainment and Tutoring Dialogue Success*. The 16th AIED conference, Memphis, TN, 2013.
- ◇ Malek Smaoui Feki, **Huy Nguyen**, and Marc Garbey. *Parallel Genetic Algorithm Implementation for BOINC*. ParCo 2009 conference, Lyon, France, 2009.
- ◇ **Huy Nguyen** & Nghia Nguyen. *Solving Graphical Steiner Tree Problem Using Parallel Genetic Algorithm*. The 2008 IEEE RIVF, University of Natural Sciences, Ho Chi Minh City, Vietnam, 2008.

Academic Honors

- Teaching Fellowship, School of Arts & Sciences, University of Pittsburgh, Fall 2010
- President's Paper of Commendation for Excellent Students in Studying and Graduation, Hanoi University of Science and Technology, July 24, 2007
- Third prize in Student Research Contest, School of Information and Communication, Hanoi University of Science and Technology, May 20, 2007
- ELAND-Vietnam Corp. Scholarship for Excellent Students in Vietnam, May 8, 2007
- FPT Information System Co. Ltd. Scholarship for Excellent Students in Information Technology, Dec 21, 2006
- Intel-Vietnam Co. Scholarship for Excellent Students in Information Technology, Oct 18, 2004
- Hanoi University of Science and Technology Scholarship for academic excellence, 10/10 semesters, 2002 – 2007

**Extra-curricular
Activities**

Secretary of Graduate Student Organization
Computer Science Department, University of Pittsburgh

Fall 2014 – Fall 2015

Mentor of Lego Mindstorms Group for Kid
Children Institute of Hanoi, Vietnam

Spring – Summer 2007