

Honglei Liu

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EDUCATION

2012 – 2017

Ph.D Computer Science

University of California, Santa Barbara (UCSB), CA, USA

- Overall GPA: 3.97/4.0
- Advisor: Prof. Xifeng Yan
- Research Areas: *sequence mining, information extraction, active learning, deep learning*
- Thesis: Mining Patterns and Networks from Sequence Data

2010 – 2012

M.S. Computer Science

Northeastern University (NEU), Shenyang, China

- Overall GPA: 3.84/4.0, Graduate with honors (1%)
- Co-Advisors: Prof. Xiaochun Yang and Prof. Bin Wang
- Thesis: Approximate Text Alignment Techniques and Optimization Approaches (*Outstanding Graduate Dissertation of NEU*)

2006 – 2010

B.S. Computer Science (Honors Class*)

Northeastern University, Shenyang, China

- Overall GPA: 3.75/4.0, Major GPA: 3.85/4.0
- Thesis: Design and Implementation of an Approximate Querying Approach Based on Berkeley DB (*Outstanding Undergraduate Dissertation of NEU*)

WORK EXPERIENCE

Jan. 2019 –

Senior Research Scientist, Facebook Conversational AI

Present

Topics: NLU, Dialog, Recommendation, Online Learning, Reinforcement Learning

Oct. 2017 –

Research Scientist, Facebook Conversational AI

Dec. 2018

Topics: NLU, Dialog, Online Learning, Reinforcement Learning

Jun. 2016 –

Intern, Facebook

Sep. 2016

Topics: Indexing and Mining Billions of Time Series

Mar. 2016 –

Teaching Assistant, Advanced Data Mining (CS291K)

Jun. 2016

Topics: Neural Networks, CNN, RNN, LSTM, TensorFlow

Jul. 2015 –

Bioinformatics Intern, Illumina Inc.

Sep. 2015

Topic: Fast Specificity Checking for Multiplex PCR Primer Design

PUBLICATIONS

1. **H. Liu**, P. Shah, W. Li, W. Yang, A. Kumar, “**Interpretability of Deep Reinforcement Learning Models in a Conversational System**”, *in submission*
2. **H. Liu**, A. Kumar, W. Yang, B. Dumoulin, “**Explore-Exploit: A Framework for Interactive and Online Learning**”, *Systems for Machine Learning Workshop at Neural Information Processing Systems (NeurIPS 2018)*
3. K. Li, P. Zhang, **H. Liu**, H. Zha, X. Yan, “**PoQaa: Text Mining and Knowledge Sharing for Scientific Publications**”, *Proc. of Int. Conf. on Knowledge Discovery and Data Mining (KDD 2018)*. (demo)
4. **H. Liu**, D. Bridges, C. Randall, S. Solla, B. Wu, P. Hansma, X. Yan, K. Kosik, K. Bouchard, “**In vitro Validation of in silico Identified Inhibitory Interactions**”, *Journal of Neuroscience Methods*
5. Y. Su*, **H. Liu***, S. Yavuz, I. Gur, H. Sun, X. Yan, “**Global Relation Embedding for Relation Extraction**”, *Proc. of the Annual Conf. of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT 2018)* (*: Equal Contribution)

* The class consisted of 30 students selected from 850 students in the College of Information Science and Engineering, and required more efforts to obtain a high GPA.

6. **H. Liu, B. Wu, “Active Learning of Functional Networks from Spike Trains”, *SIAM Int. Conf. on Data Mining (SDM 2017)***
7. **H. Liu, F. Han, H. Zhou, X. Yan, K. Kosik, “Fast Motif Discovery in Short Sequences”, *Proc. of Int. Conf. on Data Engineering (ICDE 2016)***
8. **X. Yang, H. Liu, B. Wang, “ALAE: Accelerating Local Alignment with Affine Gap Exactly in Biosequence Databases”, *Proc. of Int. Conf. on Very Large Databases (VLDB 2012)***
9. **H. Liu, X. Yang, B. Wang, R. Jin, “Approximate Substring Query Algorithms Supporting Local Optimal Matching”, *Journal of Frontiers of Computer Science and Technology*, 2011 5 (09), 769-780**

PATENTS

1. **H. Liu, A. Kumar, W. Yang, B. Dumoulin, “Interactive and Online Learning for Interactive User Interfaces of Assistant Systems”, pending**
2. **H. Liu, P. Shah, W. Li, W. Yang, A. Kumar, “Interpretability of Deep Reinforcement Learning Models in a Conversational System”, pending**
3. **H. Liu, etc, “Smart Assistant Systems”, pending**
4. **V. Natarajan, W. Yang, H. Liu, A. Kumar, “Building User Profile from Conversational Data”, pending**
5. **H. Liu, J. Bruand, “Systems and Methods for Off-Target Sequence Detection”, *US15/705,079*, pending**
6. **H. Liu, X. Yang, J. Wang, B. Wang, “Biological Sequence Local Comparison Method Capable of Obtaining Complete Solution”, *CN102750461*, granted on April 22, 2015**
7. **H. Liu, X. Meng, “An Electric Automobile Battery Replacing Device”, *CN202089042*, granted on Dec. 28, 2011**

AWARDS AND HONORS

VLDB Conference Travel Fellowship, 2012

Outstanding Graduate Student (2%), Liaoning Province, China, 2011

Jian Long Scholarship (2/98), Northeastern University, 2011

Suzhou Industrial Park Scholarship (3/210), Northeastern University, 2009

Outstanding Undergraduate Student (5%), Northeastern University, 2009

2nd Prize of National Undergraduate Electronic Design Contest (**Top 6.9%, 8,766 teams**), China. 2009

1st Prize of the 4th National Undergraduate Intelligent Car Contest (**Top 3%, 720 teams**), China, 2009

Excellent Paper Award of the 4th National Undergraduate Intelligent Car Contest, China. 2009

TECHNICAL SKILLS

Programming:

C/C++, Python, Matlab, C#, Objective-C, Assembler

Tools:

TensorFlow, Theano, LaTeX, SQL, QT, Direct3D