

I-Ta Lee

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EDUCATION

PhD's Degree of Science in Computer Science August 2015 - present

Purdue Natural Language Processing Laboratory, Purdue University, USA

- Deep Learning and Natural Language Processing
- Event Embeddings, Common Sense Modeling, Narrative Scripts

Master's Degree of Science in Computer Science, GPA: 4.0 / 4.0 September 2008 - June 2010

Wireless Mobile Networking Laboratory, National Tsing Hua University, Hsinchu, Taiwan

- **Master Thesis:** A Cooperative Multicast Routing Protocol for Mobile Ad Hoc Networks

Bachelor's Degree of Science, Computer Science, GPA: 3.96 / 4.0 September 2004 - June 2008

Yuan Ze University, Taoyuan, Taiwan

WORK EXPERIENCE

PhD Machine Learning Intern (Ads Ranking) May 2019 - August 2019

Facebook, Menlo Park, CA

- Purchase Intent Modeling and Visualization Tools

Research Intern May 2017 - August 2017

Hewlett Packard Enterprise, Sunnyvale, CA (ArcSight, Previous HP Lab team)

- Threat detection in netflow data using LSTM with Attention in Tensorflow.

Senior Software Engineer October 2013 - September 2014

Trend Micro Inc.—A Global Leader in IT Security, Taiwan

- Mainly use C++ in Visual Studio to develop core modules of Advanced Persistent Threat solutions.

Senior Software Engineer October 2010 - September 2013

Moxa Inc.—A World-Class Company in Industrial Automation, Taiwan

- The main developer of the first Zigbee network device at Moxa. The products are available worldwide.
- Designed a ZigBee application protocol that improved network capacity by 100%. This development has been nominated for an annual R&D award and the design has been presented to 400 engineers.
- Implemented RFC protocol modules, such as IGMPv3, LLDP, RIPv2. Maintained UART drivers on Linux/Windows

ACADEMIC EXPERIENCE

Research and Teaching Assistant, Purdue University August 2015 – Present

- Deep Learning, Object-Orient Programming in Java, C Programming

Research Assistant, Academia Sinica, Natural Language Processing Lab January 2015 – July 2015

- Deep/Machine Learning for Natural Language Processing

Research Assistant, National Tsing Hua University, National Science Council, 2009 - 2010

- *National Networked Communications Program:* Air Pollution Sensing System in Vehicular Ad Hoc Networks

Teaching Assistant, National Tsing Hua University 2009 - 2010

- Mobile Telecommunication Networks, graduate-level

TECHNICAL SKILLS

Expertise

- Problem solving in Applied Machine Learning and Natural Language Processing
- Embeddings Training, Sequence Modeling, Text Understanding.

Past Expertise

- Embedded systems, Windows/Linux system programming, Socket Programming, Linux/Windows device drivers

Programming

- Proficient in C/C++, Python, Java, Git, Shell Scripts, and Makefile

PUBLICATIONS

- **I-Ta Lee**, and Dan Goldwasser, “Multi-Relational Script Learning for Discourse Relations,” *ACL* (2019)
- **I-Ta Lee**, and Dan Goldwasser, “FEEL: Featured Event Embedding Learning,” *AAAI* (2018)
- Kristen Johnson, **I-Ta Lee**, and Dan Goldwasser, “Ideological Phrase Indicators for Classification of Political Discourse Framing on Twitter,” *NLP+CSS* (2017)
- **I-Ta Lee**, et al., “PurdueNLP at SemEval-2017 task 1: Predicting Semantic Textual Similarity with Paraphrase and Event Embeddings,” *Proc. Of SemEval* (2017)
- Maria L. Pacheco, **I-Ta Lee**, Xiao Zhang, A. K. Zehady, P. Daga, Di Jin, A. Parolia, and D. Goldwasser, “Adapting Event Embeddings for Implicit Discourse Relation Recognition,” *CONLL* (2016)
- **I-Ta Lee**, Tzu-Yi Lin, Yu-Lu Liu and Tein-Yaw Chung, “A Design and Implementation of an iSCSI-based Wireless Remote Video Storage System,” *National Computer Symposium* (2007)
- **I-Ta Lee**, Guann-Long Chiou, and Shun-Ren Yang, “A Cooperative Multicast Routing Protocol for Mobile Ad Hoc Networks,” *Elsevier Journal of Computer Networks*, Volume 55, Issue 10, 14 July 2011, pp. 2407–2424.

PROJECTS

Purchase Intent Modeling and Visualization <i>PhD Machine Learning Intern @Facebook</i>	August 2019
<ul style="list-style-type: none"> • Model user’s purchase intent from offsite data, generating -0.023 calibration gap on 17.34% of the data. • Built a backend and frontend system to visualize user’s purchase intent on item categories 	
Multi-Relational Script Learning for Discourse Relations (http://bit.ly/2GPjgwi) <i>Purdue NLP Lab @ACL 19’ (Oral Presentation)</i>	August 2019
<ul style="list-style-type: none"> • Reconsider relationships between script events. (Github: http://bit.ly/2Yt4QNV) 	
FEEL: Featured Event Embedding Learning (http://bit.ly/2T6DiaN) <i>Purdue NLP Lab @AAAI 18’ (Oral Presentation)</i>	February 2018
<ul style="list-style-type: none"> • A general model that embeds features into event embeddings 	
Feature Learning for Security Data (http://bit.ly/2YPWcYu) <i>Research Intern @Hewlett Packard Enterprise</i>	August 2017
<ul style="list-style-type: none"> • Threat detection in netflow data using LSTM with attention 	
Predicting Semantic Textual Similarity with Paraphrase and Event Embeddings (http://bit.ly/2YPfxW0) <i>PurdueNLP @SemEval 17’, Vancouver, Canada</i>	August 2017
<ul style="list-style-type: none"> • Learning paraphrase embeddings with DSSM-like convolutional neural networks and skip-gram event embeddings. 	
Adapting Event Embeddings for Implicit Discourse Relation Recognition (http://bit.ly/2ZADdP1) <i>PurdueNLP Lab @CoNLL 16’, Berlin, Germany</i>	August 2016
<ul style="list-style-type: none"> • The proposed event embeddings improve implicit discourse relation classifications 	
Deep Discovery Endpoint Sensor 1.0 (http://bit.ly/2YtXWY7) <i>Trend Micro Inc. @Taiwan</i>	2014
<ul style="list-style-type: none"> • A large-scale C++-based software for threat detection, based on YARA—an open-source memory scan and hook solution. 	
ZigBee Network Gateway and Converter (http://bit.ly/31j37ah) <i>Moxa Inc. @Taiwan</i>	2013
<ul style="list-style-type: none"> • A series of embedded devices implemented by using C language on two real-time operating systems. 	

HONORS

Awards and Scholarships

Scholarship from AAAI 2018	2018
Presidential Awards from Yuan Ze University (x4) (ranked 1/126 each year)	2005 - 2008
Honorary Member of the Phi Tau Phi Scholastic Honor Society	2010
Certificate of Outstanding Achievement in IEEE Yuan Ze University Student Branch	2007
Scholarship from Yuan Ze University for Great Academic Achievement (x3)	2005 - 2007
Scholarship from Inventec Appliances OKWAP for Great Academic Achievement	2007
Scholarship from LiMing Corporation for Great Academic Achievement (x3)	2007 - 2009

- Scholarship from the Taipei Zhong Zhen Foundation (x2)

2007 - 2008