

# I-Ta Lee

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## EDUCATION

<b>PhD's Degree of Science in Computer Science</b> <i>Purdue Natural Language Processing Laboratory, Purdue University, USA</i> <ul style="list-style-type: none"><li>Deep Learning and Natural Language Processing</li></ul>	<b>August 2015 - present</b>
<b>Master's Degree of Science in Computer Science</b> <i>Wireless Mobile Networking Laboratory, National Tsing Hua University, Hsinchu, Taiwan</i> <ul style="list-style-type: none"><li><b>Master Thesis:</b> A Cooperative Multicast Routing Protocol for Mobile Ad Hoc Networks</li></ul>	<b>September 2008 - June 2010</b>
<b>Bachelor's Degree of Science, Computer Science</b> <i>Yuan Ze University, Taoyuan, Taiwan</i>	<b>September 2004 - June 2008</b>

## WORK EXPERIENCE

<b>Research Intern</b> <i>Hewlett Packard Enterprise, Sunnyvale, CA (ArcSight, Previous HP Lab team)</i> <ul style="list-style-type: none"><li>Threat detection in netflow data using LSTM with Attention in Tensorflow.</li></ul>	<b>May 2017 - August 2017</b>
<b>Senior Software Engineer</b> <i>Trend Micro Inc.—A Global Leader in IT Security, Taiwan</i> <ul style="list-style-type: none"><li>Mainly use C++ in Visual Studio to develop core modules of Advanced Persistent Threat solutions.</li></ul>	<b>October 2013 - September 2014</b>
<b>Senior Software Engineer</b> <i>Moxa Inc.—A World-Class Company in Industrial Automation, Taiwan</i> <ul style="list-style-type: none"><li>Served as main developer of the first Moxa Zigbee embedded network device. The products are available worldwide.</li><li>Designed a ZigBee application protocol that improved network capacity by 100%. This development has been nominated for an annual R&amp;D award and the design has been presented to 400 engineers.</li><li>In a STREAMS-based MoxaOS, implemented RFC standardized protocol modules, including IGMPv3, LLDP, RIPv2.</li><li>Maintained UART drivers on Linux/Windows.</li></ul>	<b>October 2010 - September 2013</b>

## ACADEMIC EXPERIENCE

<b>Teaching Assistant, Purdue University</b> <ul style="list-style-type: none"><li>Deep Learning, Object-Orient Programming in Java, C Programming</li></ul>	<b>Aug 2015 – Present</b>
<b>Research Assistant, Academia Sinica, Natural Language Processing Lab</b> <ul style="list-style-type: none"><li>Research field: Deep Machine Learning for Natural Language Processing</li></ul>	<b>January 2015 – July 2015</b>
<b>Research Assistant, National Tsing Hua University, National Science Council,</b> <ul style="list-style-type: none"><li><i>National Networked Communications Program:</i> Air Pollution Sensing System in Vehicular Ad Hoc Networks</li></ul>	<b>2009 - 2010</b>
<b>Teaching Assistant, National Tsing Hua University</b> <ul style="list-style-type: none"><li>Mobile Telecommunication Networks, graduate-level</li></ul>	<b>2009 - 2010</b>

## TECHNICAL SKILLS

### Expertise

- Apply Machine Learning models to solve Natural Language Processing problems
- Familiar with diverse learning models for training semantic representations, e.g., Word/Event Embeddings

### Past Expertise

- Embedded systems, Windows/Linux system programming Linux/Windows device drivers
- TCP/IP, ZigBee, Ad Hoc Networks, socket programming

### Programming

- Proficient in C/C++, Python, Java
- Familiar with Git, Batch Script, Shell Script, and Makefile

## PUBLICATIONS

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### Conference and Workshop Papers

- 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)

### Journal Papers

- 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.

## HONORS

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### Awards and Scholarships

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|------------------------------------------------------------------------------------|-------------|
| • 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 Zhung Zhen Foundation (x2)                           | 2007 - 2008 |

## PROJECTS

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### Feature Learning for Security Data (<https://goo.gl/T5oSAQ>)

Research Intern@Hewlett Packard Enterprise

- Threat detection in netflow data using LSTM with attention

### Predicting Semantic Textual Similarity with Paraphrase and Event Embeddings (<https://goo.gl/iaKdfY>)

Poster, SemEval 2017@Vancouver, Canada

- Learning paraphrase embeddings with DSSM-like Convolutional Neural Networks and event embeddings with Skip-Gram.

### Adapting Event Embeddings for Causality (<http://goo.gl/ATc279>)

Purdue University, PurdueNLP Lab

- The proposed event embeddings improve implicit discourse relation classifications

### Deep Discovery Endpoint Sensor 1.0 (<http://goo.gl/R5a9pR>)

Trend Micro Inc.

- A large C++-based software project. I was mainly responsible for integrating different threat solution modules into our platform, including YARA—an open-source memory scan solution, and a user-mode hook solution.

### A Malicious Message Filter on MSN Live Messenger (<http://goo.gl/Dnhukk>)

Yuan Ze University, Web Information Mining and Retrieval

- Filter malicious messages based on the Naïve Bayes classifier in an instant messaging client.

### Air Pollution Sensing System in Vehicular Ad Hoc Network (<http://goo.gl/vDPezC>)

National Tsing Hua University, National Networked Communications Program

- Led a team to implement a client-server architecture to collect air quality sensor data from vehicles.

### iSCSI-based Remote Video Storage System (<http://goo.gl/OvdsN9>)

Yuan Ze University, Network Laboratory

- Led and implemented a client-server application regarding remote virtual disc devices.

### ZigBee Network Gateway and Converter (<http://goo.gl/7I1kCX>)

Moxa Inc.

- A series of embedded devices implemented by using C language on two real-time operating systems.