# I-Ta Lee

1044 Cumberland Avenue
West Lafayette, IN 47906, USA
https://doug919.github.io

765-586-5120
lee2226@purdue.edu

## 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

**Machine Learning PhD 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 for Ads Ranking** **August 2019**
*Machine Learning PhD Intern @Facebook*

- Model user's purchase intent from offsite, 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/2GPjgwj)** **August 2019**
*Purdue NLP Lab @ACL 19' (Oral Presentation)*

- Reconsider relationships between script events. (Github: **http://bit.ly/2Yt4QNv)**

**FEEL: Featured Event Embedding Learning (http://bit.ly/2T6DiaN)** **February 2018**
*Purdue NLP Lab @AAAI 18' (Oral Presentation)*

- A general model that embeds features into event embeddings

**Feature Learning for Security Data (http://bit.ly/2YPWcYu)** **August 2017**
*Research Intern @Hewlett Packard Enterprise*

- Threat detection in netflow data using LSTM with attention

**Predicting Semantic Textual Similarity with Paraphrase and Event Embeddings (http://bit.ly/2YPfxW0)** **August 2017**
*PurdueNLP @SemEval 17', Vancouver, Canada*

- Learning paraphrase embeddings with DSSM-like convolutional neural networks and skip-gram event embeddeings.

**Adapting Event Embeddings for Implicit Discourse Relation Recognition (http://bit.ly/2ZADdP1)** **August 2016**
*PurdueNLP Lab @CoNLL 16', Berlin, Germany*

- The proposed event embeddings improve implicit discourse relation classifications

**Deep Discovery Endpoint Sensor 1.0 (http://bit.ly/2YtXWY7)** **2014**
*Trend Micro Inc. @Taiwan*

- 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)** **2013**
*Moxa Inc. @Taiwan*

- 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 Zhung Zhen Foundation (x2) **2007 - 2008**