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

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**