TUAN M. LAI

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EDUCATION

University of Illinois at Urbana-Champaign *2020 - Present*
PhD in Computer Science · GPA: 4.0/4.0

Purdue University *2018 - 2020*
MSc in Computer Science · GPA: 3.94/4.0

Korea Advanced Institute of Science and Technology (KAIST) *2013 - 2017*
BSc in Computer Science · GPA: 3.96/4.3 · Department Rank: 1/37

EXPERIENCE

Amazon (Seattle, US) *May 2022 - Aug 2022*
Applied Scientist Intern

· Working on knowledge-grounded dialog systems.

X, Moonshot Factory (Mountain View, US) *Jan 2022 - May 2022*
AI Resident

· Worked on moonshot ideas related to AI.
· Developed a translator between molecules and natural language: `https://arxiv.org/abs/2204.11817`

Nvidia (Remote - Santa Clara, US) *May 2021 - August 2021*
Applied Research Intern - Deep Learning

· Developed state-of-the-art models for text normalization.
· I have integrated the models into NeMo, Nvidia's open-source Conversational AI toolkit.

Adobe (Remote - San Jose, US) *May 2020 - August 2020*
Natural Language Processing Research Intern

· Developed state-of-the-art deep learning models for NLP tasks such as keyphrase extraction and coreference resolution. Proposed a novel semi-supervised learning algorithm for leveraging the large amount of unlabeled data available online.

Adobe (San Jose, US) *May 2019 - Dec 2019*
Natural Language Processing Research Intern

· Developed novel deep learning models for tasks such as natural language understanding, question answering, dialog state tracking, and multimodal information retrieval.
· Published research papers at reputable conferences (EMNLP 2019, ICASSP 2020). Filed three patents.

Adobe (San Jose, US) *September 2017 - May 2018*
Data Science Research Intern

· Developed the frontend and the backend of a mobile-based intelligent shopping assistant. An in-store user only needs to take a picture or scan the barcode of a product of interest and then can talk to the assistant about the product.
· Developed various question answering and information retrieval models using deep learning. Built many web applications to showcase the models to researchers and product teams at Adobe.
· Published many research papers (COLING 2018, NAACL 2019, IEEE CG&A 2019). Filed one patent.

Google (Mountain View, US) *May 2017 - August 2017*
Software Engineering Intern

· Developed deep learning models for extracting measurements and currencies from web documents.
· Improved the workflow for generating training data for the models.
· Performance Rating: Superb.

Google (London, UK) *June 2016 - September 2016*
Software Engineering Intern

· There were two errors, each occurring at least a million times per day in the Android Google Search App. I implemented new information cards that show up when the errors occur and assist the users in resolving the errors. The implemented information cards have been fully launched in production.

For a complete list of publications, refer to my Google Scholar (300+ citations).

RIGOROUSLY REFEREED CONFERENCE PAPERS

- **Tuan Manh Lai**, Heng Ji, and ChengXiang Zhai. *Improving Candidate Retrieval with Entity Profile Generation for Wikidata Entity Linking.* ACL 2022 Findings.
- Manling Li, Revanth Gangi Reddy, Ziqi Wang, Yi-Shyuan Chiang, **Tuan M. Lai**, Pengfei Yu, Zixuan Zhang and Heng Ji. *COVID-19 Claim Radar: A Structured Claim Extraction and Tracking System.* ACL 2022 Demo Track.
- **Tuan Manh Lai**, Trung Bui, and Doo Soon Kim. *End-to-end Neural Coreference Resolution Revisited: A Simple yet Effective Baseline.* ICASSP 2022.
- **Tuan Lai**, Heng Ji, and ChengXiang Zhai. *BERT might be Overkill: A Tiny but Effective Biomedical Entity Linker based on Residual Convolutional Neural Networks.* EMNLP 2021 Findings.
- **Tuan Lai**, Heng Ji, ChengXiang Zhai, and Quan Hung Tran. *Joint Biomedical Entity and Relation Extraction with Knowledge-Enhanced Collective Inference.* ACL 2021.
- **Tuan Lai**, Heng Ji, Trung Bui, Quan Hung Tran, Franck Dernoncourt and Walter Chang. *A Context-Dependent Gated Module for Incorporating Symbolic Semantics into Event Coreference Resolution.* NAACL 2021.
- Haoyang Wen, Ying Lin, **Tuan M. Lai**, Xiaoman Pan, Sha Li, Xudong Lin, Ben Zhou, Manling Li, Haoyu Wang, Hongming Zhang, Xiaodong Yu, Alexander Dong, Zhenhailong Wang, Yi R. Fung, Piyush Mishra, Qing Lyu, Ddac Surs, Brian Chen, Susan W. Brown, Martha Palmer, Chris Callison-Burch, Carl Vondrick, Jiawei Han, Dan Roth, Shih-Fu Chang and Heng Ji. *RESIN: A Dockerlized Schema-Guided Cross-document Cross-lingual Cross-media Information Extraction and Event Tracking System.* NAACL 2021 Demo Track.
- **Tuan Manh Lai**, Trung Bui, Doo Soon Kim and Quan Hung Tran. *A Joint Learning Approach based on Self-Distillation for Keyphrase Extraction from Scientific Documents.* COLING 2020.
- Quan Hung Tran, Nhan Dam, **Tuan Lai**, Franck Dernoncourt, Trung Le, Nham Le and Dinh Phung. *Explain by Evidence: An Explainable Memory-based Neural Network for Question Answering.* COLING 2020.
- **Tuan Manh Lai**, Quan Hung Tran, Trung Bui, Daisuke Kihara. *A Simple but Effective BERT Model for Dialog State Tracking on Resource-Limited Systems.* ICASSP 2020.
- **Tuan Lai** *, Quan Hung Tran *, Trung Bui, Daisuke Kihara. *A Gated Self-attention Memory Network for Answer Selection.* EMNLP 2019.

- **Tuan Manh Lai**, Trung Bui, Sheng Li. *A Review on Deep Learning Techniques Applied to Answer Selection.* COLING 2018.
- Quan Hung Tran, **Tuan Manh Lai**, Gholamreza Haffari, Ingrid Zukerman, Trung Bui, Hung Bui. *The Context-dependent Additive Recurrent Neural Net.* NAACL HLT 2018.

JOURNALS

Sugeerth Murugesan, Sana Malik, Fan Du, Eunyee Koh, **Tuan Manh Lai**. *DeepCompare: Visual and Interactive Comparison of Deep Learning Model Performance.* IEEE Computer Graphics and Applications 2019.

PATENTS

Utilizing a Gated Self-Attention Memory Network Model for Predicting a Candidate Answer Match to a Query (**Issued 9/2021**)

AutoNLU: An on-demand cloud-based Natural Language Understanding system for enterprises (Patent Filed 05/2021)

A Joint Learning Approach based on Self-Distillation for Keyphrase Extraction from Documents (Patent Filed 10/2020)

A Simple but Effective BERT Model for Dialog State Tracking on Resource-Limited Systems (Patent Filed 06/2020)

Training of Neural Network based Natural Language Processing Models using Dense Knowledge Distillation (Patent Filed 12/2019)

Generating and Utilizing Classification and Query-Specific Models to Generate Digital Responses to Queries from Client Devices (Patent Filed 4/2018)