

Tung Tran – Curriculum Vitae

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Information	tung.tran@uky.edu 1-859-475-2884	
Citizenship	United States	
City of Residence	Lexington, Kentucky, United States	
Research Interests	Machine Learning; Deep Neural Networks; Natural Language Processing; Information Extraction; Biomedical Informatics	
Education	Ph.D. in Computer Science , University of Kentucky, Lexington, KY, USA ↳ Dissertation Advisor: Ramakanth Kavuluru, Ph.D. <ul style="list-style-type: none">• ABD – completed coursework requirements with G.P.A. of 4.0 out of 4.0• Expected to graduate in May 2020	2014–Present
	B.S. in Computer Science , University of Kentucky, Lexington, KY, USA <ul style="list-style-type: none">• Graduated Cum Laude with G.P.A. of 3.5 out of 4.0	2010–2014
Research Experience	Graduate Research Assistant , University of Kentucky <ul style="list-style-type: none">• Developed method for predicting mental conditions based on narratives from clinical notes• Developed methods for end-to-end relation extraction from free text in various domains	2016–Present
	Summer Research Intern , U.S. National Institutes of Health (CGSB/NLM/NIH) ↳ Mentor: Halil Kilicoglu, Ph.D. <ul style="list-style-type: none">• Developed joint-learning model for extracting drugs and their interactions from drug labels• Applied deep learning to the analysis of citation sentiment in clinical research articles	Summer 2018
	Undergraduate Research Assistant , University of Kentucky <ul style="list-style-type: none">• Worked on applying answer set programming to the problem of database query optimization	2011–2012
Teaching Experience	Teaching Assistant , University of Kentucky ↳ CS215 – Introduction to Program Design, Abstraction, and Problem Solving <ul style="list-style-type: none">• Taught as a lab instructor in Fall 2014, Spring 2015, Fall 2015, and Spring 2016	2014–2016
Professional Experience	Software Engineering Intern , PatentRank <ul style="list-style-type: none">• Designed, implemented, and maintained a data platform for large amounts of patent data• Implemented an information retrieval system for patent document lookup	2013–2014

- Publications in Progress
- **T. Tran**, M. Ickes, J. W. Hester, and R. Kavuluru. Predicting Current Juul use among Emerging Adults through Twitter Feeds. **Under review.** ([preprint](#))
 - **T. Tran**, R. Kavuluru, and H. Kilicoglu. Attention-Gated Graph Convolutions for Extracting Drug Interaction Information from Drug Labels. **Under review.** ([preprint](#))
 - **T. Tran** and R. Kavuluru. Neural Metric Learning for Fast End-to-End Relation Extraction. **Under review.** ([preprint](#))
- Refereed Journal Publications
1. **T. Tran** and R. Kavuluru. Social Media Surveillance for Perceived Therapeutic Effects of Cannabidiol (CBD) Products. *International Journal of Drug Policy*, 2020. ([preprint](#)) ([publisher](#))
 2. **T. Tran** and R. Kavuluru. Distant Supervision for Treatment Relation Extraction by Leveraging MeSH Subheadings. *Artificial Intelligence in Medicine*, 2019. ([preprint](#)) ([publisher](#))
 3. H. Kilicoglu, Z. Peng, S. Tafreshi, **T. Tran**, G. Roseblat, and J. Schneider. Confirm or Refute?: A Comparative Study on Citation Sentiment Classification in Clinical Research Publications. *Journal of Biomedical Informatics*, 2019. ([publisher](#))
 4. R. Doğan, S. Kim, A. Chatr-aryamontri, C. Wei, D. Comeau, and 22 others, including **T. Tran**. Overview of the BioCreative VI Precision Medicine Track: mining protein interactions and mutations for precision medicine. *Database: Journal of Biological Databases and Curation*, 2019. ([publisher](#))
 5. A. Sarker, M. Belousov, J. Friedrichs, K. Hakala, S. Kiritchenko, F. Mehryary, S. Han, **T. Tran**, and 8 others. Data and systems for medication-related text classification and concept normalization from Twitter: Insights from the Social Media Mining for Health (SMM4H) 2017 shared task. *Journal of the American Medical Informatics Association*, 2019. ([publisher](#))
 6. **T. Tran** and R. Kavuluru. An End-to-End Deep Learning Architecture for Extracting Protein-Protein Interactions Affected by Genetic Mutations. *Database: Journal of Biological Databases and Curation*, 2018. ([publisher](#))
 7. **T. Tran** and R. Kavuluru. Predicting Mental Conditions Based on “History of Present Illness” in Psychiatric Notes with Deep Neural Networks. *Journal of Biomedical Informatics*, 2017. ([preprint](#)) ([publisher](#))
- Conference and Workshop Publications
8. **T. Tran**, R. Kavuluru, and H. Kilicoglu. A Multi-Task Learning Framework for Extracting Drugs and Their Interactions from Drug Labels. In Proceedings of **The Eleventh Text Analysis Conference (TAC)**, 2018. ([report](#))
 9. A. Rios, **T. Tran**, and R. Kavuluru. Predicting Psychological Health from Childhood Essays with Convolutional Neural Networks for the CLPsych 2018 Shared Task (Team UKNLP). In Proceedings of **The Fifth Workshop on Computational Linguistics and Clinical Psychology: From Keyboard to Clinic (CLPsych)**, 2018. ([publisher](#))

10. **T. Tran** and R. Kavuluru. Supervised Approaches to Assign Cooperative Patent Classification (CPC) Codes to Patents. In Proceedings of **The Fifth International Conference on Mining Intelligence and Knowledge Exploration (MIKE)**, 2017. ([preprint](#)) ([publisher](#))
11. **T. Tran** and R. Kavuluru. Exploring a Deep Learning Pipeline for the BioCreative VI Precision Medicine Task. In Proceedings of **The BioCreative VI Workshop**, 2017. ([report](#)) ([proceedings](#))
12. S. Han, **T. Tran**, A. Rios, and R. Kavuluru. Team UKNLP: Detecting ADRs, Classifying Medication In-take Messages, and Normalizing ADR Mentions on Twitter. In Proceedings of **The 2nd Social Media Mining for Health Applications Workshop and Shared Task at AMIA (SMM4H)**, 2017. ([report](#))
13. R. Kavuluru, A. Rios, and **T. Tran**. Extracting drug-drug interactions with word and character-level recurrent neural networks. In Proceedings of **The Fifth IEEE International Conference on Healthcare Informatics, Workshop on Healthcare Knowledge Discovery and Management (ICHI)**, 2017. ([preprint](#)) ([publisher](#))

Awards and Honors

2019 — Departmental Fellowship for the 2019–2020 Academic Year, Computer Science, UKY
 2018 — Ranked **2nd out of 8 teams** in the shared task on DDI extraction (TAC 2018)
 2018 — Biomedical Informatics Training Program Appointee, U.S. National Library of Medicine
 2017 — Ranked **2nd out of 6 teams** in the shared task on PPI extraction (BioCreative VI)
 2016 — Graduate School Travel Grant, UKY
 2015 — Departmental Nominee for the Microsoft PhD Fellowship Program, Computer Science, UKY
 2014 — Graduated Cum Laude, B.S. in Computer Science, UKY
 2010-2014 — Dean’s List for Three Semesters, UKY
 2010-2014 — Kentucky Educational Excellence Scholarship (KEES)
 2010 — Academic Competitiveness Grant
 2010 — Catalyst Scholarship

Professional Service and Activities

Reviewer , 3× Bioinformatics Journal	2018–2020
Reviewer , 6× American Medical Informatics Association (AMIA) Annual Symposium	2019
Reviewer , 1× Empirical Methods in Natural Language Processing (EMNLP) Conference	2018
Reviewer , 1× Scientometrics (SCIM) Journal	2018
Reviewer , 1× Journal of Biomedical Informatics (JBI)	2017
Member , American Medical Informatics Association (AMIA)	2016–Present
Member , Association for Computing Machinery (ACM)	2010–Present
Member , Chair Search Committee, Computer Science Department, UKY	2013
Chapter President , ACM Student Chapter, UKY	2012-2013
Engineering Student Council (ESC) Representative , ACM Student Chapter, UKY	2011-2012
Member , ACM Student Chapter, UKY	2010-2014

Invited Talks and
Other Presentations

1. **An End-to-End Deep Learning Architecture for Extracting Protein-Protein Interactions Affected by Genetic Mutations.**, George Washington University (GWU) Informatics Seminar, September 2018.
2. **A Multi-Task Learning Framework for Extracting Drugs and Their Interactions from Drug Labels.**, U.S. National Institutes of Health (NIH) Summer Poster Day, August 2018. (Poster)
3. **Exploring a Deep Learning Pipeline for the BioCreative VI Precision Medicine Task.**, BioCreative VI Workshop, October 2017.
4. **Extracting drug-drug interactions with word and character-level recurrent neural networks.**, Fifth IEEE International Conference on Healthcare Informatics (ICHI), Workshop on Healthcare Knowledge Discovery and Management, August 2017.
5. **Prediction of Psychiatric Conditions Based on “History of Present Illness” from Psychiatric Notes**, 2016 CEGS N-GRID Shared-Tasks and Workshop on Challenges in Natural Language Processing for Clinical Data, November 2016.

Open Source
Software

Personal Repository: <https://github.com/ttr222>

- 2018 — **Protein-Protein Interaction Extractor**. A deep learning based pipeline for end-to-end extraction of protein-protein interactions affected by genetic mutations.
- 2017 — **Autumn Named Entity Recognition (NER)**. A standalone deep neural network model for named entity recognition (NER).
- 2017 — **Drug-Drug Interaction (DDI) Extractor**. A deep neural network model for relation extraction of drug-drug interactions.
- 2017 — **Patent Data Harvester and Parser**. A system for harvesting full-text patents (and their CPC codes) from the USPTO website and parsing them to a machine-readable format.
- 2017 — **Adverse Drug Reaction (ADR) Mention Normalizer**. A deep neural network model for concept normalization of adverse drug reaction (ADR) mentions.