

# Tung “Tommy” Tran, Ph.D.

## Machine Learning Researcher & Engineer

Published ML researcher and practitioner with several ML papers in high-impact, peer-reviewed academic journals in a variety of knowledge domains including biomedical literature, EHR data, and social media content. Specialized in deep learning for natural language processing (NLP) with a dissertation focused on advanced information and relation extraction. Resident of the Tampa Bay area in Florida. US Citizen.

## WORK EXPERIENCE

### **IDS International**, *Cyber and Information Warfare Division*, Arlington, VA

**Senior AI/NLP Engineer** ..... 10/2021 – Present

**AI/NLP Engineer** ..... 08/2020 – 10/2021

- Developed methods for automatic content generation, for the purpose of social media environment replication, including face image generation and natural language text generation
- Developed methods for social media content analysis including automatic spam detection, bot detection, and image object recognition

### **University of Kentucky**, *Computer Science Dept. & Inst. for Biomedical Informatics*, Lexington, KY

**Graduate Research Assistant** ..... 06/2016 – 08/2020

- Developed methods for relation extraction from natural language text in various domains
- Developed methods for predicting mental conditions based on narratives from clinical notes
- Published several machine learning papers in reputable journals and conferences

### **National Institutes of Health (NIH)**, *National Library of Medicine*, Bethesda, MD

**Summer Research Intern** ..... 06/2018 – 09/2018

## EDUCATION

**Ph.D. in Computer Science** ..... 2014 – 2020

Computer Science Department, University of Kentucky, Lexington, KY

- Dissertation: “*Deep Neural Architectures for End-to-End Relation Extraction*”
- Dissertation Advisor: Ramakanth Kavuluru, Ph.D.
- Graduated with GPA of 4.0 out of 4.0

**B.S. in Computer Science** ..... 2010 – 2014

Computer Science Department, University of Kentucky, Lexington, KY

- Graduated *Cum Laude* with GPA of 3.5 out of 4.0

## TECHNICAL SKILLS

Python; Tensorflow; Keras; PyTorch; Word2Vec; GloVe; Scikit-learn; NLTK; Numpy; Pandas; Huggingface (transformers) library; Linux; Bash; Docker; Kubernetes; Elasticsearch; MongoDB; HTML; JavaScript; CSS

## CERTIFICATIONS

**Machine Learning – Stanford University.** Issued by *Coursera* on May 2015. ([Certificate](#))

## RESEARCH INTERESTS

Machine Learning; Deep Neural Networks; Natural Language Processing; Information Extraction; Biomedical Informatics; Text and Image Classification and Analysis

## RESEARCH GRANT ACTIVITY

NIH Grant R01LM013240, “Advanced End-to-End Relation Extraction with Deep Neural Networks.”

- Developed core proposal ideas and co-authored grant proposal draft with Principal Investigator Ramakanth Kavuluru. **Awarded \$1,356,734 from 2020 to 2024.** ([Details](#))

## SELECTED JOURNAL PAPERS

The following are first-authored papers published in peer-reviewed journals that are highly reputable for their respective fields.

1. **T. Tran**, M. Ickes, J.W. Hester, and R. Kavuluru. Identifying Current Juul users among Emerging Adults through Twitter Feeds. *International Journal of Medical Informatics*, 2021. ([Link](#))
2. **T. Tran**, R. Kavuluru, and H. Kilicoglu. Attention-Gated Graph Convolutions for Extracting Drug Interaction Information from Drug Labels. *ACM Transactions on Computing for Healthcare (ACM Health)*, 2021. ([Link](#))
3. **T. Tran** and R. Kavuluru. Social Media Surveillance for Perceived Therapeutic Effects of Cannabidiol (CBD) Products. *International Journal of Drug Policy*, 2020. ([Link](#))
4. **T. Tran** and R. Kavuluru. Distant Supervision for Treatment Relation Extraction by Leveraging MeSH Subheadings. *Artificial Intelligence in Medicine*, 2019. ([Link](#))
5. **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. ([Link](#))
6. **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. ([Link](#))