

# TRI NGUYEN

[nguyetr9@oregonstate.edu](mailto:nguyetr9@oregonstate.edu) — [github.com/ductri](https://github.com/ductri) — [linkedin.com/in/tri-nguyen-cs](https://www.linkedin.com/in/tri-nguyen-cs) — 541-360-9255

## EDUCATION

**Oregon State University** — Corvallis, OR, USA

2020 - Expected 2025

*Ph.D. in Computer Science (GPA: 3.85)*

Relevant courses: Matrix Analysis, NLP with Deep Learning, Estimation, Machine Learning, Convex Optimization.

**Ho Chi Minh City University of Technology** — Vietnam

2012 - 2017

*Bachelor of Computer Science, (GPA: 8.72/10, Gifted program)*

## RELATED EXPERIENCE

**Graduate Research Assistant**

Mar 2020 - Present

*Prof. Xiao Fu*, Oregon State University,

*Corvallis, OR*

- Performed research projects on topics including deep learning, identifiability of matrix/tensor decomposition, convex optimization, and statistical learning that has resulted in 3 publications in top-tier conferences and journals.
- Presented one topic every quarter in internal reading group meetings, including: diffusion model, large language model, minimax analysis to expand and keep up-to-date knowledge in machine learning.

**AI Engineer**

Feb 2017 - Jan 2020

YouNet Group

*Ho Chi Minh City, Vietnam*

*Sentiment Analysis*

- Lowered manual workload of social media research team from 65% to 40% by training LSTM-based models with a continuous integration pipeline on an increasingly large dataset to perform text-based sentiment classification.
- Built on-demand scalable sentiment classification APIs using Docker, Kubernetes, and Google Cloud.
- Improved the reliability of crawling system to consume up to 100s GBs textual data/day with an error-tolerant system with proper logging, exception handling, and comprehensive unit tests.

*Customized Data Retrieval and Aggregation*

- Reduced 100 support requests/week by building a web-based retrieval application supporting highly customizable search syntax and offering advanced operators such as 'not', 'and', 'or', '\*'.

*Sample Size Estimation*

- Formulated equations to determine a reliable sample size essential for the business analysis team's work.

## PUBLICATIONS

- **[ICML, 2023]** T. Nguyen, S. Ibrahim, and X. Fu. *Deep Clustering with Incomplete Noisy Pairwise Annotations: A Geometric Regularization Approach.*
- **[ICLR, 2023]** S. Ibrahim, T. Nguyen, and X. Fu. *Deep Learning From Crowdsourced Labels: Coupled Cross-Entropy Minimization, Identifiability, and Regularization.*
- **[TSP, 2022]** T. Nguyen, X. Fu, and R. Wu. *Memory-Efficient Convex Optimization for Self-Dictionary Separable Nonnegative Matrix Factorization: A Frank-Wolfe Approach.*

## PROJECTS

- **Self-dictionary Learning:** Reduced the runtime of a Matlab version of a Frank-Wolfe algorithm by 10x, while using the same amount of memory by implementing a Mex function.
- **Sentiment Shifting:** Trained a Transformer model in an unsupervised, unpaired textual data setting as in machine translation to translate positive reviews to negative ones and vice versa.
- **Community Detection:** Demonstrated superior of Tucker decomposition over CDP decomposition in the context of rich structural community detection setting.
- **Nonlinear Least Square:** Derived a formulation for a matrix decomposition problem and implemented a Gauss-Newton algorithm to optimize a nonlinear least square objective function.

## SKILLS

Python, Matlab; PyTorch, TensorFlow, Git; Google Cloud, Docker, Kubernetes, Hive/Impala, Kafka; SQL, Pandas, NumPy; Tmux, Vim, LaTeX.