

Zhucheng (Michael) Tu

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SKILLS

PROGRAMMING

Python • C/C++ • Java
JavaScript • SQL • Scala

LIBRARIES/SYSTEMS/TOOLS

ML/Deep Learning:

PyTorch • NumPy

Pandas • scikit-learn

Data:

Hadoop • Hive • Spark

Presto • Elasticsearch

Databases:

PostgreSQL • MySQL

Redis • MongoDB

Web and Mobile:

Flask • Pyramid • Node.js

AngularJS • React • Android

Others:

Git • Vim • AWS • Azure

Docker • Thrift • Protobuf

EDUCATION

UNIVERSITY OF WATERLOO

MMATH THESIS

AREAS: INFORMATION RETRIEVAL/NLP

ADVISOR: PROF. JIMMY LIN

May 2017 - Apr 2018 | Waterloo, ON

BACHELOR OF SOFTWARE ENGINEERING,

GRADUATED ON DEAN'S HONOUR'S LIST

Sept 2012 - Apr 2017 | Waterloo, ON

ACTIVITIES

- Teaching assistant for Big Data Infrastructure and Artificial Intelligence
- *Real Data* HackerRank competition - ranked 22nd/456 (Apr 2016)
- *The Analytics Edge* Kaggle competition - ranked in top 21% (Aug 2015)
- Math Orientation Leader (Sep 2015)
- MathSoc and Class Representative for Software Engineering (2013)

WORK EXPERIENCE

UBER | SOFTWARE ENGINEERING INTERN, SECURITY/RISK

August - December 2016 | San Francisco, CA

- Engineered features for machine learning models to combat promotion fraud
- Performed detailed analysis of impact of features on reducing monetary loss
- Implemented and tuned text classification model for classifying spammy names

FACEBOOK | DATA ENGINEERING INTERN, BUSINESS INTELLIGENCE

January - April 2016 | Menlo Park, CA

- Built pipelines and visualizations using Hive and React for Instagram Insights
- Compared approaches for ranking Instagram posts given an audience

REFLEKTION | SOFTWARE ENGINEERING INTERN, MACHINE LEARNING TEAM

April - August 2015 | San Mateo, CA

- Improved similar and trendy product ranking for recommender system
- Led implementation and helped design data normalization module in Python

REFLEKTION | SOFTWARE ENGINEERING INTERN, ANALYTICS TEAM

August - December 2014 | San Mateo, CA

- Implemented an experiment framework, integrated with Kafka/Storm pipeline
- Prototyped a monitoring and alerting system using StatsD, Graphite, and Cabot
- Reduced Elasticsearch-based API query latency by up to 5x

RESEARCH EXPERIENCE

UNIVERSITY OF WATERLOO | MASTER'S STUDENT, DATA SYSTEMS GROUP

May 2017 - April 2018 | Waterloo, ON

- Performed experimental analysis of MP-CNN for detecting textual similarity, devised slim model that has 7x fewer parameters and improved accuracy
- Helped advisor to mentor five undergrad researchers in total, submitted papers to SIGIR 2017 workshop, ICASSP 2018 conference, and NAACL 2018 demo

SELECTED PUBLICATIONS

- [1] R. Tang, W. Wang, **Z. Tu**, and J. Lin, "An experimental analysis of the power consumption of convolutional neural networks for keyword spotting," in *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2018.
- [2] **Z. Tu**, M. Crane, R. Sequiera, J. Zhang, and J. Lin, "An exploration of approaches to integrating neural reranking models in multi-stage ranking architectures," in *Proceedings of the SIGIR 2017 Workshop on Neural Information Retrieval (Neu-IR'17)*, 2017.
- [3] R. Sequiera, G. Baruah, **Z. Tu**, S. Mohammed, J. Rao, H. Zhang, and J. Lin, "Exploring the effectiveness of convolutional neural networks for answer selection in end-to-end question answering," in *Proceedings of the SIGIR 2017 Workshop on Neural Information Retrieval (Neu-IR'17)*, 2017.

AWARDS

- 2017 Nominated for Jessie W.H. Zou Memorial Award for Undergraduate Research
- 2017 University of Waterloo Graduate Scholarship
- 2017 University of Waterloo Math Domestic Graduate Student Award