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 8x fewer parameters and improved accuracy
- Helped to mentor undergrad researchers, submitted papers to SIGIR 2017 workshop, ICASSP 2018 conference, and NAACL 2018 conference

SELECTED PUBLICATIONS

[1] **Z. Tu**, M. Li, and J. Lin, "Pay-per-request deployment of neural network models using serverless architectures," in *Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics: Demonstrations*, 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