Moshi Wei

Email: wmswms938@gmail.com

Blog: moshiii.github.io/cv/

Python, NLP, Machine learning

Experience

NLP Researcher - Software engineering, York University

- Project in progress: Bert-based API recommender
- Paper inproceeding: Automatic Unit Test Generation for MachineLearning Libraries: How Far Are We?
- Paper inproceeding: CoCoFuzzing: Testing Neural Code Models withCoverage-Guided Fuzzing.
- ISSTA2020 Paper: CoCoNuT: Combining Context-Aware Neural Translation Models using Ensemble for Program Repair.

Software Engineer – Business Intelligence, Achievers May. 2019 – Present

- **Team lead** of awarded project: Created Named Entity Recognition (**NER**) system highlighting Date, Name and Event using **Spacy**, **NLTK**, **Gensim** and other **NLP** technique
- Created a **recommender System** that recommend nominees to the user in social networks by **Collaborative Filtering** based on the relevance between message and user.
- Reduced **TeraByte-level ETL** data warehouse restoration time by **24 times** compared with the previous version by restructuring workflow using **PostgreSQL**
- Increased global **ETL** loading speed by **16%** by rewrite **batch loading API** using Python
- Created a **graph visualization** of employee community for user influence Perdition and analysis using **Python**, **Networkx** and **Pyvis**

Research Assistant, University of Waterloo Dec. 2017 – Sep. 2019

- First author and Team lead: Increased the accuracy of Automated Program Repair model on Quixbugs benchmark by **240%** by proposing novel approach using Pytorch **seq2seq NMT** model with **CRNN** layer and code mutation templates
- Reduced the encoder and decoder dictionary size from **50000+ to 200 tokens** and training time **from 100+ hours to 20 hours** by creating **novel NMT architecture**

Awards

- **Full Scholarships** for York Ph.D. Software Engineering program Sep 2020
- **Best Hackathon Project** Award at **Achievers**: ML-based Recommender system Jan 2020
- **Full Scholarships** for Uwaterloo MASc. Software Engineering program Jan 2019

Education

- **University of Waterloo**, Research Master of Software Engineering **Dec 2017 – Sep 2019**
- **University of Ottawa**, Bachelor of Computer Science, Horner with Co-op **Sep 2012 – Dec 2016**

Publications

- Abstraction Mechanism on Neural Machine Translation Models for Automated Program Repair
Author: Moshi Wei, **Lin Tan** **Sep 23rd 2019**
- Ensemble Learning using Convolution Neural Machine Translation for Automatic Program repair
Author: Thibaud Lutellier, Lawrence Pang, Viet Hung Pham, Moshi Wei, **Lin Tan** **Jun 20th 2018**