**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, AchieversMay. 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 WaterlooDec. 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**