

# Alex Bie

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## EDUCATION

**University of Waterloo** BMath, Computer Science | 2016 - Present  
▪ 91% Academic Average

## SKILLS

**Languages** Python ▪ C/C++ ▪ Matlab ▪ Java/Scala ▪ R ▪ JavaScript ▪ OCaml

**Technologies** NumPy/PyTorch/TensorFlow ▪ Linux ▪ Node.js ▪ Git ▪ L<sup>A</sup>T<sub>E</sub>X

## Coursework

- Computational Vision, Intro to Machine Learning
- Operating Systems
- Statistics, Calculus, Linear Algebra, Analysis & Measure Theory

## EXPERIENCE

**Assistant Researcher** | Huawei Noah's Ark Lab

Sep 2019 – Dec 2019 | Montreal

- Applied research in automatic speech recognition (ASR)
- Explored and evaluated techniques for speeding up deep learning models for use on mobile devices  
Resulting work in submission to ICASSP 2020: <https://arxiv.org/abs/1911.03604>
- Worked with product team to train models on internal datasets to prototype Chinese ASR systems
- Investigated techniques for robust and far-field speech recognition in university collaboration

**Undergrad Research Assistant** University of Waterloo

May 2019 – Aug 2019 | Waterloo

- Worked part-time with Dr. Olga Vechtomova on the task of *text simplification*
- Implemented baseline methods and conducted a literature review, presented during weekly seminars

**Research Student** National Research Council of Canada

Jan 2019 – April 2019 | Ottawa

- Worked with Dr. Yunli Wang (Multilingual Text Processing Group) on applying deep learning to NLP tasks (topic modelling & text style transfer)
- Performed a literature review for the task of *text style transfer*
- Implemented SOTA methods in PyTorch and summarized experimental results/observations in a technical report + talk

**Software Developer** TradeRev

May 2018 – Aug 2018 | Toronto

- Leveraged multi-threading and eager queries to speed up financial report generation (12 days → 5 hours)
- Worked on refactoring components of a legacy financial system (Java) into microservices (Node.js)
- Performed production debugging/hotfixes for financial system seeing over \$2,000,000 in daily throughput

## PROJECTS & EXTRACURRICULARS

**Text Editor** C++, ncurses

Vim-like modal text editor designed with RAI and extension in mind. Supports a limited, growing set of commands. We drew up the full UML before coding.

**Calculus TA** University of Waterloo

Part-time tutor teaching assistant under the Faculty of Math to help students with Calculus I & II.