



# Alex Bie

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## EDUCATION

**University of Waterloo** BMath, Computer Science | 2016 - Present  
▪ 92% 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
- Algorithms, OOP
- Statistics, Calculus, Linear Algebra, Real Analysis

## EXPERIENCE

**Undergrad Research Assistant** University of Waterloo

May 2019 – Present | Waterloo

- Working part-time with Dr. Olga Vechtomova on the task of *text simplification*
- Implementing baseline methods, conducting a literature review, and participating in lab 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 some NLP tasks (topic modelling, dialogue, 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

**Text Editor** C++, ncurses

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

**3D Maze Game** Java, OpenGL

Worked with OpenGL to render mazes under a perspective projection. Mazes are randomly generated & you can walk around in them.

## EXTRACURRICULARS

**Calculus TA** University of Waterloo

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