Austin Tripp

austin.james.tripp@gmail.com
(289) 380 1517
www.linkedin.com/in/austin-tripp
austint.github.io
4A Nanotechnology Engineering

Technical Skills

Machine Learning	• Neural networks, deep learning, Bayesian modelling, SVM, linear models
Programming	• Python (scipy/numpy, tensorflow/pytorch, scikit-learn, nltk, pandas) • Java, MATLAB, data structures, standard algorithms
Physics Modelling	• COMSOL, numerical methods, MAPLE, reactive/convective systems
Research	• Literature review, critical thinking, academic writing, wet/dry lab experience

Work Experience

AI Research Intern
ContextLogic (Wish)
May 2018 - Aug 2018
- Worked with four different teams to apply AI to a diverse set of problems
- Used machine learning to make vector embeddings of millions of products
- Created a novel recommender system for cold-start recommendation
- Ran a machine learning journal club, reading over 50 arXiv papers

Deep Learning Engineer
NVIDIA
Jan 2018 - Apr 2018
- Worked on applying neural nets to video game character animation
- Coordinated a multi-disciplinary team including artists and engineers
- Independently made neural nets with Tensorflow and Keras

Research Assistant
Harvard University, Joanna Aizenberg Lab
Sep 2016 - Apr 2017
- Used machine learning to analyze chemical sensor data (python/scikit-learn)
- Independently read scientific literature to improve data collection
- Used first-principles physics models to improve sensor performance
- Journal publication in preparation

Junior Researcher
University of Waterloo, Frank Gu Lab
Jan 2016 - Aug 2016
- Designed and implemented pilot-scale production of water-treatment catalyst
- Increased catalyst production by a factor of 1000 and decreased cost by 40 %
- Used regression analysis to determine catalyst efficiency from FTIR data
- Journal publication in preparation

Product Engineer
Neverfrost Inc.
May 2015 - Dec 2015
- Designed and scaled-up synthesis of proprietary nanoparticles
- Performed experiments and made mechanistic model from scientific literature
- Improved product from below industry standards to industry-leading

Education

University of Waterloo
Sep 2014 - Present

- Candidate for Bachelor of Applied Science: Nanotechnology Engineering, 4A
- Achieved Dean`s honour list every term, rank #1 for 4/6 terms

Research Projects

Symmetries in Quantum Simulations
Prof. Pierre Roy, UW
Sep 2017 - Present

- Analyzing symmetry constraints in quantum mechanical modelling
- Using group theory to validate model simplification strategies
- Improving simulation efficiency by reducing size of parameter space

Simulations of Microfluidic Reactor
Prof. Derek Rayside, UW
May 2017 - Oct 2017

- Used COMSOL to model multi-phase flow in a soft-wall microfluidic reactor
- Analyzed effects of reactor deformation on the reaction kinetics
- Performed analysis to determine feasibility of novel reactor geometries

Awards

Correlation-One Datathon: 2nd place

- For analysis and machine learning on Uber Ride Dataset (May 2017)
- Went to NYC to compete in finals in November 2017

First in Class Scholarship

- For highest standing in class: 1A, 1B, 2A, 3B

USACO: gold standing

- Highest class in recurring algorithmic programming contest

Governor General Academic Medal

- For top academic achievement in my high school graduating class of over 400

Activities and Interests

Natural Language Learning

- I learn languages to understand different cultural/cognitive perspectives
- B2: French, Mandarin, Esperanto
- B1: German, Toki pona
- A2: Turkish, Japanese
- Executive of UW Culture and language exchange club (UWCLEC)
- Organized free language tutoring sessions for UW students

Hackathons

- EngHack, Waterloo Hacks, Hack Harvard, Correlation-One

Other Hobbies

- Reading, jogging, baking, cycling, travelling