Alex Foley

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Experience

Jane Street Capital — Waterloo, Ontario (Remote)
Software Engineering Intern — *June 2020 - August 2020*

- Created an open-source plugin API on top of VCaml to improve developer workflow and abstract common patterns when creating neovim plugins in OCaml
- Built a neovim plugin in OCaml for switching between interface and implementation files, allowing users to move forward/next in the list of relevant files or select their desired file in fzf
- Discovered a race condition in neovim which resulted in RPC messages to stay on the wire and could cause existing neovim plugins to hang, regardless of the language in which the plugin was written

Google - Gmail Dynamic Email — Waterloo, Ontario
Software Engineering Intern — *May 2019 - August 2019*

- Designed and built Java WebDriver tests and monitoring for Docs' dynamic emails, catching two major regressions before production
- Added internal logging and monitoring to triage AMP validation failures affecting over 500000 emails
- Designed and built a tool to help developers debug dynamic email issues affecting 15% of all dynamic emails, improving developer experience and cutting down previously manual outreach

Microsoft - Teams — Redmond, Washington
Software Engineering Intern — *August 2018 - December 2018*

- Built-out new communications architecture to support multi-window capabilities in Teams, decreasing bytes over wire by 92%
- Wrote GraphQL resolvers in TypeScript to handle requests routed through the new architecture
- Designed and built-out flighting solution for new architecture, allowing requests to be routed through new and old communication paths with high configurability

Wish - Tracking — San Francisco, California
Software Engineering Intern — *January 2018 - April 2018*

- Created Python crons and internal tools to automate merchant notification processes, increasing the number of trackable packages on Wish by 10%
- Integrated new tracking source into Wish platform, cutting tracking costs by up to 80% per package
- Shortened the time it took to update packages' statuses from 4 hours to 45 minutes by splitting long-running jobs into short jobs which could be run in parallel
- Won internal 13-hour hackathon by automating the approval of 36% of tracking disputes, reducing the cost of manual labour

Projects

vm — Waterloo, Ontario
CS 246E Final Project — *November 2017*

- Created a functional clone of the text-editor vim in C++, including: vertical splits, macros, and syntax highlighting with multiple colour schemes
- Used common idioms such as RAII and design patterns to write extensible, object-oriented code which avoided manual memory management

Sandwich-o-matic — Peterborough, Ontario
ECHacks 2016 - Best Hardware Hack — *November 2016*

- Created an automated IOT sandwich-maker with voice control, in 36 hours
- Users could say "make me a sandwich with [toppings]" and the machine toasted the bread, dispensed the toppings, and made the requested sandwich
- Created the embedded software (Photon/Arduino) to process requests and facilitate servo/motor movements to make the sandwich
- Featured by Arduino, Gadgetify, and Hackaday

Education

University of Waterloo — Waterloo, Ontario
Bachelor of Computer Science (Co-op) - 93% Cumulative Average — *September 2016 - April 2021*

Awards/Achievements

2020	**Member**, University of Waterloo Rocket League B Team	Waterloo, Ontario
2016-2020	**Member**, University of Waterloo Table Tennis A Team	Waterloo, Ontario
2017, 2019	**1st/15 Teams**, Google Games Waterloo	Waterloo, Ontario