Joel Burget

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EXPERIENCE

SERI MATS / ARC Evals — *November 2022-April 2023*

- For the first six weeks of SERI MATS I studied mechanistic interpretability, supervised by Neel Nanda (now at DeepMind).
- For the final eight weeks of SERI MATS, and for a five-week extension, I worked with the ARC Evals team.
- At Evals my main focus was on building tools to facilitate making evaluations faster and easier.
- I also built tools to make evaluations fully reproducible, in preparation for Evals' upcoming public report (demonstrating the evaluation methodology we used).

Software Engineer, Google LLC — *August 2019-March 2023*

I was the tech lead for an engineering productivity team, building tools to help our partner teams within Google.

- I built a tool projected to save many engineer-years (per year) by using static analysis to anticipate common failures before changes are committed (and code is run).
- I mentored engineers new to the team (and to Google) and helped prioritize projects and our technical choices.
- I built performance, integration, and regression testing tools that run as part of every deploy (for some teams).
- I had a 20% project with the quantum computing team, building tools used to design chip layouts.

Cofounder, Monic LLC — *Feb 2018-July 2019*

Monic was a two-person software consulting company focusing on programming languages and software verification.

- Our largest project was a system for automatically checking user-specified correctness properties using an SMT solver. This was used for annotating (transactions within) financial contracts with properties like "preserves the total money supply" or "account balances can never be negative" and automatically verifying these properties.

Software Engineer, JP Morgan Chase — *2016-2018*

- I worked on a functional programming language called Hopper, intended to be used for modeling financial transactions.
- I added Raft-based consensus to the Ethereum Virtual Machine for the Quorum project.
- I built a randomized testing framework for testing consensus in the presence of simulated network failures.

Consultant — *Oct 2015-Feb 2016*

I worked as a front-end web consultant with a specialization in JavaScript / React. I built the web search feature for Spring (now part of ShopRunner) and helped with architecture and best practices at AlphaSheets (acquired by Google).

Software Engineer, Khan Academy — *2011-2015*

Full-stack Python / Javascript developer. I worked on search / autocomplete, internal tooling, frontend UI, etc.

PROJECTS

Portland Effective Altruists and Rationalists

I organize a group which meets bi-weekly to discuss AI alignment. I typically choose a topic for the week and lead the discussion.

d4.js

I wrote an explanation of how it's possible to use React and functional programming idioms to recreate most of the functionality built into d3.js, but in a style I find more readable / maintainable.

LVCA

Language Verification, Construction, and Analysis. A tool for building programming interpreters and tools by specifying their syntax, statics, and dynamics.

SKILLS

Programming Languages: OCaml; Haskell; Python; Javascript; C++; Go; HTML; basic SQL, basic Java
Frameworks and Tools: Google App Engine (prior experience); PyTorch (beginner); MacOS; Linux; React

EDUCATION

Ohio State University – Columbus, OH
BS Mathematics, BS Computer and Information Science with honors; Magna Cum Laude 2008 - 2012