Akhil Indurti

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SKILLS

Languages C, Go, Rust, Assembly, Java, Python, Javascript, SML, Raku, C++, Racket, Shell, SQL, LaTeX.

Tools LLVM & Go toolchains, OpenGL, Git, Docker, Kubernetes, Linux, Nix, GraphQL, Android, Adobe Creative Suite, QEMU, AWS, GCP, DigitalOcean, Terraform, ScyllaDB, MongoDB, Concourse, ZFS.

PROJECTS

Go Member who contributes patches, triages issues, and reviews code. Works on compiler, standard library, and runtime. Notable contributions: fused-multiply-add, static analysis checks, and playground.

mem A memory allocator for Go.

nas Configuration for Home NAS, running NixOS, ZFS, Tailscale, Home Assistant, Samba, and Plex.

oscons Notes on OS Construction.

mexdown An extensible human-readable plain-text format.

EXPERIENCE

Software Engineer @ Mount Laurel, NJ *Comcast*, May, 2020 - current
Working on Comcast's Next Generation Access Network (NGAN) to build Genome, a poller for millions of network devices across the country.

- Implemented an SNMP connection pool that significantly sped up the long tail of our polling cycle, and cut AWS costs.
- Led a testing & deployment strategy to discover test devices and monitor health statuses.
- Detected incompatible changes to GraphQL and Avro schemas.
- Automated datalake topic generation and IAM roles via Terraform.
- Assisted in MongoDB to ScyllaDB migration, and multi-region setup.
- Improved and hired talent to improve code quality and CI infrastructure.

Participant at OPLSS 2021: Participated in the Oregon Programming Languages Summer School to study interesting topics in PL Theory and Formal Verification.
Speaker at GopherCon 2021: Gave a 45 min talk about "Writing a Static Analyzer for Go Code".

Research Assistant @ Charlottesville, VA *ShiftLab*, Jan, 2020 - May, 2020
Worked under Professor Samira Khan to find crash-consistency bugs via structured fuzzing, as well add support for persistent memory to the Go programming language.

Teaching Assistant @ Charlottesville, VA *University of Virginia*, Spring 2018 - Spring 2019

- **Theory of Computation**: Course covers automata theory, complexity theory, and problem-solving techniques. I assist in grading, holding office hours, and supervising problem-solving sessions. I developed a new Turing Machine Simulator assignment.
- **Program Data and Representation**: Course covers C++, data structures, and assembly. I assist in grading, holding office hours, and running lab. I developed a new Tree lab that introduces AVL trees.

Research @ Charlottesville, VA *Center for Automata Processing*, Fall 2017 - Spring 2018
I worked to explore the application and implementation of state machines. Under my advisors Professor Kevin Skadron and Jack Wadden, *my research* focused on developing and implementing an NFA reduction algorithm to perform prefix and suffix merging in VASim.

Android SDK @ Palo Alto, CA *TRNQL*, January - August 2015
Worked to enable easy integration of contextual information into an application. Created example applications for clients to study, and led meetups to introduce the community to these SDK features.

Software Engineering Intern @ Milpitas, CA *FireEye*, Summer 2014
Implemented a web application for the management and education on the company's security products.

- Wrote a web application to educate, display, and manage the new intrusion prevention system.
- Developed a real-world understanding of network security in the context of large organizations.

EDUCATION

University of Virginia (B.S. in Computer Science) Fall 2019
Coursework: Operating Systems, Advanced Computer Architecture, Graduate Compilers, Machine Learning, Computer Graphics, Capstone Research, Algorithms, Theory of Computation, Program Data and Representation