rprasad3@illinois.edu
(978) 496-0829

Rohan Prasad

http://rohanp.tech
github.com/rohanp9000

Education

The University of Illinois at Urbana-Champaign — Champaign, IL
B.S. in Computer Engineering, GPA: 3.66 — *Aug 2019 – May 2023*

- **Selected Coursework**: Operating Systems (ECE 391), Programming Languages & Compilers (CS 421), Distributed Systems (CS 425), Applied Parallel Programming (CS 483), Data Structures & Algorithms (CS 225), Computer Systems & Programming (ECE 220), Analog Signal Processing (ECE 210), Digital Signal Processing (ECE 310)

Experience

Citadel LLC. - Global Transaction Service — Chicago, IL
Incoming Software Engineering Intern — *Aug 2021 – Dec 2021*

Squarespace - Core Services / Async Platforms — New York, NY
Software Engineering Intern — *May 2021 – Aug 2021*

- Added logging and flag ownership features in org-wide A/B testing platform in Java and Go. Utilized gRPC and Protocol Buffers to communicate flag status between applications.
- Abstracted mobile-accessible endpoints away from Squarespace monolith into a microservice. Re-implemented device registration for all Squarespace users to route directly through microservice public API gateway.

Nvidia – GPU Architecture — Santa Clara, CA
Software Engineering Intern — *Feb 2021 – May 2021*

- Created secure interrupt path in NVLINK functional-model with C++. Enabled register logic through Ioctrls.
- Implemented near-end analog & digital loop-back in C++ in f-model to reduce latency in register context-switches by 60%.
- Wrote conditional and functional coverage for NVlink packets. Automated generation with Perl.

Intelligent Motion Laboratory — Champaign, IL
Undergraduate Research Assistant — *Oct 2019 – Feb 2021*

- Developed TRINA 2.0, the teleoperated robotic intelligent nursing assistant under Professor Kris Hauser.
- Implemented ROS, Python, and C++ algorithms for motion planning & control.

Woven Money — Seattle, WA
Software Engineering Intern — *May 2020 - Aug 2020*

- Developed financial technology SaaS product (MVP) on an early-stage startup team, used by over 3000 customers in the alpha release.

Projects

- **Unification-based Type Inferencer**: Designed and implemented a type inferencer using first order unification on PicoML, a subset of OCaml, in Haskell. Ensured static typed-ness through pre-processing & constraint generation algorithm and covered Hindley-Milner parametric polymorphic type system.
- **Linux Operating System**: Wrote Linux kernel to support a variety of features, including scheduling, processes, multiple terminals, basic user programs, and vi/vim. Developed bootloader, various drivers, virtual memory, shells, and FAT32 file system.
- **CPU for LC-3 ISA**: Designed and prototyped a simple CPU for LC-3 ISA for a DE10 FPGA using SystemVerilog. Implemented on-chip memory & interfaced with peripherals, writing both hardware & firmware.
- **Image Histogram Equalization**: Parallelized histogram equalization computation of input image using C++ and CUDA. Implemented Cumulative Distribution Function of image histogram and increased throughput by 220% through kernel fusion.

Skills

Languages: C/C++, VHDL, mips32 & x86 asm, Haskell, Java, Python, OPerl, Typescript, Javascript

Technologies: FPGA, CUDA, ROS, OMPL, Puppeteer, OpenCV, RabbitMQ

Interests: Autonomous Vehicles, Product Engineering, Quantitative Finance, Baseball