Nishchay **Parashar**

RESEARCH ENGINEER · COMPUTER SCIENTIST · SOFTWARE ENGINEER · SYSTEMS ENGINEER

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Education

Brown University *Providence, RI, USA*

Master's in Computer Science - GPA: 4.00/4.00 *Sep. 2022 - May 2024 (expected)*

- Teaching Assistant: Design and Analysis of Algorithms, Fundamentals of Computer Systems.
- Relevant Courses: Algorithms, Operating Systems, Computer Systems, Cryptography, Computer Networks.

Manipal Institute of Technology *Manipal, India*

Bachelor's in Computer Science and Engineering - GPA: 3.96/4.00 *Aug. 2016 - Aug. 2020*

- One in only 250 global GitHub Campus Expert, Gen. Sec. CS Society (leading 1500+ students).

Work Experience

Apple *Cupertino, CA, USA*

Software Engineering Intern *June 2023 - Sep. 2023*

- Implemented **configuration-as-code DHCP** solution using Golang, custom DSL, and Grafana-Prometheus integrations to relieve tech debt.
- Successfully migrated legacy PHP service to a modern SOA (services-oriented architecture) leveraging Python, RabbitMQ, Docker, and Kubernetes.

Samsung Research - Samsung Semiconductor India Research *Bangalore, India*

Senior Engineer *Aug. 2020 - Jul. 2022*

- Core developer for department's flagship automation platform, delivering **critical microservices** (infra provisioning, observability, notification management) with 100% uptime. Helped **save work hours** across memory division.
- **Improved** test benches of **7+ memory products** by implementing false positive detection, failure root cause analysis, and failure similarity search.
- Built distributed log pipelines and complementary analytics engine. Worked extensively on the search platform Elastic stack and **distributed-systems** performance optimizations.
- Presented internal technical paper as **1st author** on 'Failure Analysis, Triaging and Test Optimization using Data Science and Analytics' at Samsung Research TechCon20.

Software Developer Intern *Jan. 2020 - Jul. 2020*

- Contributed with research assignments, experiments, and 2000+ lines of code, focusing on **Cloud Computing** and the forward-looking concept of Composable Infrastructure. Utilized open-source tools like OpenStack, Puppet-Razor, Juju, and Django.

Physiz AgTech *Mumbai, India*

Software Developer Intern *May 2019 - Jul. 2019*

- Developed key backend features and **30+ API** routes for the company's core product, ensuring timely global release.
- Designed and built an automated testing solution from scratch using Mocha and Chai.js, increasing code coverage from 0% to over 60%.
- Took on **DevOps responsibilities**, setting up CI/CD, Kong API Gateway, and managing IoT devices over the cloud through Balena.

Projects

Weenix Operating System

- Built a fully functional OS based on Unix, incorporating features like multitasking, virtual memory, terminal emulation, drivers, and a polymorphic file system as part of Brown University's graduate-level Operating Systems course.

Private Set Intersection – Leaked Password Detection

- Implemented the privacy-conserving cryptographic technique of Private Set Intersection to securely send and check the user's set of passwords against a leaked database without revealing any of their uncompromised passwords to the server.

DAMN - SSH Keys Distribution and Management Network

- Developed a web application for securely managing SSH keys, granting/revoking server access, and centralizing key management.
- Engineered backend using Golang while working with various web APIs, OAuth protocol, scripting, and databases technologies.

Golang Compiler

- Built a partial compiler (lexical analyzer) with error reporting and error recovery for Go (Golang) programming language.
- Created a 'Go Playground' like web application for an end-to-end demo of the compiler.

Skills

Programming	C/C++, Python, Go, x86_64 assembly, Node.js, Ruby, Shell Scripting
Databases	Elastic, MongoDB, SQL, Redis, PostgreSQL
Tools & Technologies	Git, Linux, Multithreading, Kernel dev, Posix, DevOps, API, AWS, Docker, Infra