Raj Paul

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EDUCATION

Brown University, Providence RI — *Class of 2023*

- 3.95 / 4.00 GPA, candidate for Sc.B. in Computer Science and A.B. in English
- CS courses: · Operating Systems · Operating Systems Lab · Computer Systems Security · Privacy-Conscious Systems · Deep Learning · Compilers · Programming Languages · Formal Methods · Computer Systems · Software Engineering · Discrete Math · Linear Algebra

EXPERIENCE

Brown CS, Providence RI | *Undergraduate Teaching Assistant* — *Spring 2020 - Present*

- Hold office hours and labs, design course content, respond to online forum posts, and grade assignments
- Courses: · *CS1260*: Compilers and Program Analysis · *CS1660*: Computer Systems Security · *CS0320*: Intro to Software Engineering · *CS0190*: Accelerated Intro to CS · *CS0111*: Computing Foundations: Data

Brown Systems Research Group, Providence RI | *Undergraduate Research Assistant* — *Fall 2021 - Present*

- Working with Prof. Malte Schwarzkopf on Pelton, a performant database system that is compliant by design with data privacy laws
- Towards completion of independent study, added functionality for nested materialized views in dataflow and implemented fast, at-rest encryption of user data and primary keys
- As final project for graduate course, co-created *variable-owner deletion and anonymization policies* inspired by Facebook's DELF

Workday, Pleasanton CA | *Software Development Engineer Intern* — *Summer 2022*

- Intern on "Scylla", the Cloud Engineering team which automates deployments of the Workday stack on Kubernetes clusters
- Worked on 12-week project to provide the Scylla platform system on GCP the capability of deploying orchestrated applications with ArgoCD, allowing other Workday teams to define dependencies between their applications running on the Scylla platform

NortonLifeLock, Culver City CA | *Software Engineering Intern* — *Summer 2021*

- Worked on projects for the Online Licensing Platform team, which manages the commerce integration platform for Norton's products
- Fixed security vulnerabilities in Java codebase detected by static analysis tools like Black Duck and Coverity
- Built dashboards on Sumo Logic to consolidate and organize dozens of KPIs for each of the apps managed by the OLP team

PROJECTS

Weenix [code available to employers on request] — *Spring 2022*

- Wrote a full, Unix-like operating system kernel in C from scratch as semester-long project for CS1690: Operating Systems Lab
- Implemented processes, threads, drivers, VFS layer, a file system, virtual memory management, page fault handling, and system calls

DeepKart64 [*GitHub*] — *Fall 2020*

- A reinforcement learning model built to play Mario Kart on the N64, created as group final project for CS1470: Deep Learning
- Written in Python using Tensorflow, the model continually interprets visual game state to determine actions and rewards for agent
- Design includes convolutional encoding, variation of REINFORCE with Baseline model, and OpenAI gym wrapper

Pyret Moss [*GitHub*] — *Summer 2020*

- A Rust CLI application for similarity detection in Pyret homework submissions, made with Thomas Castleman
- Created variant of the robust winnowing algorithm used by Stanford's MOSS tool and a command-line interface

SKILLS & INTERESTS

Programming Languages: · Java · C · C++ · Python · Racket · OCaml · SQL · Go · Rust · x86 Assembly · Shell · JavaScript

Tools / Technologies: · GDB · Git · Tensorflow · Docker · GCP · AWS · Jenkins · Kubernetes · React · Figma · SolidWorks

Interests: · all things food · literature · film · word games · basketball