RUTVIK SAPTARSHI

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EDUCATION

Brown University — August 2021 - Present
M.S. in Computer Science, 3.8 GPA
Head Teaching Assistant for *Intro Data Science* - managed team of 7 TAs – lectured on data science using R

SUNY Binghamton — May 2021
B.S. in Computer Science, 3.75 GPA

WORK EXPERIENCE

PTC Inc — June 2022 - August 2022
Software Engineering Intern — *Foster City, CA*

- Implemented new UI features and fixed bugs for SaaS platform using ReactJS, Angular, CSS, and HTML
- Productized quick search feature for website decreasing search time by 40% using an intuitive modern UI layout
- Participated in the complete frontend development lifecycle - mockups (Figma), implementation, and testing
- Mentored fellow interns on Linux system administration and revamped build documentation for onboarding

Veritas Technologies — June 2020 - June 2021
Software Engineer — *Santa Clara, CA*

- Designed actionable recommendations for backup datacenters, shortening support ticket resolution by 3 days
- Implemented a JWT authenticated API in Golang to interface with MongoDB server using Docker containers
- Streamlined recommendation by identifying and parallelizing asynchronous tasks with Java Runnable interface
- Optimized forecast generation by 3x using Python multiprocessing to parallelize model fitting on AWS
- Tuned parameters for time series forecasting model to estimate future disk usage in an enterprise backup system

PROJECTS & RESEARCH EXPERIENCE

What2Do?
Go, React, Postgres, AWS

- Developed a webapp to connect hobby content creators and hobbyists, increasing audience engagement
- Implemented backend as microservices running asynchronously via goroutines, hosted on AWS compute instance
- Designed modular and extensible code using abstract interfaces. Wrote Youtube connector for Youtube content

Weenix OS
C, Unix, Assembly

- Implemented Unix kernel from scratch: process management, drivers, persistent storage, and virtual memory
- Achieved persistent storage by integrating S5FS. Virtual memory including copy on write using shadow paging

Code Reuse Attack Mitigation — Paper Accepted IEEE SEED 2021
Python, C, Assembly

- Engineered defense against code-reuse attacks by efficiently tracking system call invocation metadata
- Eliminated 95% of exploitable gadgets with minimal performance penalty on SPEC2017 benchmarking suite

SKILLS & RELEVANT COURSEWORK

Skills	C, Go, Rust, Python, Bash, Java, Javascript (React, Angular, Node), SQL (Postgres, Oracle), Unix, Git, Docker, AWS, GCP
Relevant Coursework	Data Structures, Algorithms, Operating Systems, Distributed Computing, Networking Systems, Cryptography, Cybersecurity, Object Oriented Programming