

Anirudh Narsipur

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EDUCATION

Brown University, *M.Sc Computer Science (Ongoing)*

Providence, RI | September 2024 - May 2025

Brown University, *Sc.B. Computer Science-Mathematics (Honors)*

Providence, RI | September 2020- May 2024

- Senior Prize in Computer Science (Top 5% in department)
- Honors Thesis: Towards Automated Reasoning For Shell Programs
- Relevant Courses: Operating Systems, Cryptography, Machine Learning, Discrete Optimization, Programming Languages

EXPERIENCE

Amazon AWS Automated Reasoning Group (SDE Intern)

Seattle | May 2022 - Aug 2022, May 2023 - Aug 2023

- Built 2 new services to deliver automated reasoning solutions for more than 6 critical customers across Amazon
- Deployed to production a new distributed data benchmarking pipeline in Python to process 100,000+ items with a 10x runtime speedup
- Designed a new service in Java using Lambda,DynamoDB,SQS to offer mathematical correctness proofs for security-sensitive customers
- Deployed novel research techniques to reduce proof checking overhead by 80%

Brown U Head Teaching Assistant

June 2021 - Present

- Held office/lab hours and graded assignments across five upper level/graduate CS courses
- Coordinated all logistics for leading a 10 member course staff for a 100 person upper level course (CSCI1710)
- Delivered guest lecture to 30 students in graduate course on discrete optimization (CSCI2951O)
- Redesigned course assignments and created course websites using Jekyll

PROJECTS

Static Analysis For Shell Scripts (Research - In progress)

- As part of the [PaSH](#) group, created a novel state of the art static analysis tool for posix,bash shell scripts
- Catches more than 500 syntactic, shell-related and filesystem related bugs

Operating System

- Developed a rudimentary operating system (Weenix) in CS2670 (graduate level operating systems course)
- Implemented a file system, multithreading, virtual memory and process isolation in C

Automated Degree Requirements Checker

- Designed a new degree requirement checker for the Brown CS department as industry software could not meet department needs
- Devised degree requirement formalization from scratch using first order logic in the Z3 SMT solver
- Eliminate manual checking overhead and streamline student requests to advisors

Local Search Solver: Vehicle Routing Problem

- Applied advanced Local Search heuristics and integer programming methods to the vehicle routing problem, achieving near-optimal solutions

Distributed Concurrent Server

- Implemented core of a modern distributed multi-threaded server in C++ using the gRPC framework

SKILLS

Programming: Python, Java, C/C++, Rust, Julia, Bash, Javascript

Tools: Git, Linux, GDB, Vim, Pandas, NumPy, TensorFlow, Amazon Web Services (AWS)

Clubs: Theater, Debating Union (Hicks Debate Prize 2023 Winner)