Rohith Rokkam

B.S. Computer Science (Honors) and Mathematics, Summa Cum Laude
Stony Brook University, Spring 2019

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experience

Research and Development Intern – Sandia National Labs **06/18 - Present**
- Contributed to parallelization facilities for an MPI-based C++ solver framework.
- Wrote dynamic MPI code with scalability for supercomputers in mind.
- Maintained legacy compatibility as major updates were made to the software.

Teaching Assistant – Theory of Computation **Spring 2018/19**
- Designed & graded regular homework assignments for a class of 25 students.
- Gave substitute lectures on several occasions when the professor was unavailable.
- Wrote exam questions on automata, formal languages, Turing machines, and complexity theory.

Teaching Assistant – Foundations of Computer Science **Spring 2017**
- Instructed 20-person recitation section on discrete math, logic, and proof techniques.

selected projects

Canvassing Application **Fall 2018**
- Collaborated to build a JavaScript web app for managing door-to-door campaigns.
- Built a microservice in Python using MongoDB and Google OR-Tools to schedule canvasser routes.

Peer-to-peer Filesystem **Spring 2018**
- Wrote an Airdrop-like P2P service for Linux and MacOS using Python's FUSE bindings.
- Designed a custom protocol and made a multithreaded bootstrap server to host the network.

Packet Sniffer **Spring 2018**
- Created a packet sniffer capable of output to using Python's raw sockets.
- Added settings for writing to human-readable, hex, and pcapng (Wireshark-readable) formats.

Dynamic Memory Allocator **Fall 2017**
- Developed a malloc library in C, using a custom heap debugger and simulator.
- Coded a segmented free-list for the allocator to use with the first-fit strategy.
- Implemented optimizations from glibc malloc, such as use of a wilderness block.

Bash-like Shell **Fall 2017**
- Made a shell in C capable of output redirection, piping, and background jobs.
- Carefully eliminated race conditions generated by asynchronous UNIX signals.

Navigation System **Fall 2016**
- Developed a Google Maps-like app in Java using the OpenStreetMap API and an XML parser.
- Implemented shortest-path finding using Djikstra's algorithm.

organizations

SBU Algorithms Lab **01/19 - Present**
- Discuss research topics in the theory of computer science.
- We read papers on topics related to the theory of computer science and present the topics to one another.
- algorithms, discrete math, probability, high-performance computing, data structures, concurrency

SBU Go Club **Fall 2017 - Spr. 2019**
- secretary, dc trip, gotham

SBU Undergrad Algorithms Reading Group **Fall 2017 - Spr. 2018**
- Present algorithms and data structures of interest.