Rohith Rokkam

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

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experience

06/18 - 06/19 **Research and Development Intern, Center for Computing Research, Sandia National Labs**
Contributed to parallelization facilities for PEBBL, a C++ framework for solving branch-and-bound problems. Wrote dynamic MPI code with a focus on minimizing communication overhead and maintaining legacy compatibility.

01/19 - **Member, Stony Brook Algorithms Lab**
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.

projects

Fall 2018 **Canvassing Application**

- A web app written in JavaScript and Python for managing door-to-door campaigns.
- Interface with Google VRP solver
- Information stored using MongoDB
- Group project, worked mostly on the backend, query writing. say microservice

Spring 2018 **Peer-to-peer Filesystem**
Written using the FUSE bindings for Python. The P2P network is hosted by a multithreaded bootstrap server and runs over a custom protocol. Functionality similar to Airdrop. Mountable on Linux and MacOS.

Spring 2018 **Packet Sniffer**
Implemented using raw sockets in Python. Dumps packets to human-readable, hex, or pcapng (Wireshark-readable) formats as desired. Optionally filters packets by protocol.

Fall 2017 **Dynamic Memory Allocator**
Developed in C, using a first-fit allocation policy. Stores free blocks with a variable-size segmented free-list. Implements several optimizations found in glibc malloc, such as use of a wilderness block.

Fall 2017 **Shell**
A shell written in C with bash-like features, including output redirection, piping, and background jobs. Carefully implements UNIX signal handling and manages the life cycle of spawned processes.

Fall 2016 **Navigation System**
A Google Maps-like application developed in Java using the OpenStreetMap API and an XML parser, using a custom implementation of Djikstra's shortest-path algorithm for route computation.

teaching

Spring 2018/19 **Teaching Assistant: Theory of Computation**
Wrote & graded homework and exams on finite automata, formal languages, Turing machines, and complexity theory.

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

personal

Fall 2017 - Spring 2019 **Stony Brook Go Club**
Secretary, dc trip, gotham

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