Rohith Rokkam

my education

Stony Brook University B.S. in Math, Computer Science (Honors) Summa Cum Laude graduated Spring 2019 rohithrokkam@y

my experience

2019- **Stony Brook Algorithms Lab**
discuss algorithms + learn, present.

2018-19 **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.

my projects

2018 **Peer-to-peer Filesystem**
A distributed filesystem similar to Airdrop, written using the FUSE bindings for Python. The P2P network is hosted by a multithreaded bootstrap server. Mountable on Linux and MacOS.

2018 **Terminal Chat Service**
A terminal chat client in C with a concurrent server written in Python. Sends messages using a custom plaintext protocol.

2018 **Packet Sniffer**
A 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.

2017 **Dynamic Memory Allocation Library**
A 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.

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.

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.

my teaching

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

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