Rohith Rokkam

B.S. Computer Science (Honors) and Mathematics
Summa Cum Laude (GPA: 3.92), 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 large numbers of processors 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.
- Developed 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 using Python's raw sockets.
- Added settings for writing packets in human-readable, hex, and pcapng (Wireshark-readable) formats.

Dynamic Memory Allocator **Spring 2018**
- Developed a malloc library in C, using a custom heap simulator and debugger.
- Coded a segmented free-list for the allocator to use with the first-fit strategy.

Caching Service **Fall 2017**
- Wrote an in-memory least-recently-used caching service in C similar to Memcached.
- Created custom multithreading-safe queue and hashmap structures to hold cached data.

Bash-like Shell **Fall 2017**
- Made a shell in C with features including output redirection, piping, and background jobs.
- Carefully eliminated race conditions and handled 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**
- Discussed methods in theoretical computer science with undergrads and Ph.D. students.
- Gave presentations on topics in algorithms, discrete math, data structure design, and probability.

SBU Go Club – Secretary **Fall 2017 - Spr. 2019**
- Organized annual 10-15 person trips to Go tournaments in New York City and Washington, D.C.
- Hosted annual American Go Association-rated tournaments at Stony Brook with 40+ entrants.
- Held meetings twice a week and taught new players the rules of the game and basic strategy.

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

selected coursework

Graduate: Algorithms (audited, Ph.D. section), Probability Theory, Modern Algebra
Undergraduate: Operating Systems, Linear Algebra, Differential Geometry, Multivariate Analysis