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 a C++ solver framework
- Wrote dynamic MPI code to run efficiently on large computer clusters
- Maintained API for legacy compatibility while making major internal updates

Teaching Assistant – Theory of Computation **Spring 2018/19**
- Designed and graded homework for 25 students
- Lectured the class as a substitute when the professor was unavailable
- Co-wrote exams on automata, formal languages, Turing machines, and complexity theory

Teaching Assistant – Foundations of Computer Science **Spring 2017**
- Helped a 100+ person class learn discrete math, logic, and proofs
- Instructed a 25-person weekly recitation section

Selected Projects

Canvassing Application **Fall 2018**
- Collaborated on a JavaScript web app for managing door-to-door campaigns
- Implemented VRP algorithm using MongoDB and Google OR-Tools in Python

Peer-to-peer Filesystem **Spring 2018**
- Wrote an Airdrop-like P2P service in Python using FUSE and a custom protocol
- Made a multithreaded bootstrap server to host the network

Packet Sniffer **Spring 2018**
- Created a packet sniffer using raw network sockets in Python
- Added output filters for protocols including TCP, UDP, IP, Ethernet, and DNS

Dynamic Memory Allocator **Spring 2018**
- Developed a memory allocation library in C using a segmented free-list
- Implemented several optimizations from glibc malloc

Caching Service **Fall 2017**
- Wrote an in-memory LRU cache in C similar to Memcached
- Created concurrent queue and hashmap structures to hold cached data

Bash-like Shell **Fall 2017**
- Made a shell in C capable of output redirection, piping, and background jobs
- Eliminated race conditions and handled asynchronous UNIX signals

Navigation System **Fall 2016**
- Developed a GPS in Java using the open-source OpenStreetMap API
- Implemented Djikstra's algorithm to compute point-to-point directions

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, and data structures

SBU Go Club – Secretary **Fall 2017 - Spr. 2019**
- Organized annual 10-15 person trips to Go tournaments in Washington, D.C. and NYC
- Hosted annual all-day Go tournaments at Stony Brook with 40+ entrants
- Held meetings twice a week and taught new players how to play

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

Selected Coursework

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