# 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** **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.
- P2P network hosted by a multithreaded bootstrap server. 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 some optimizations from glibc malloc, ex: wilderness block.

Fall 2017 **Shell**

- Written in C with bash-like features and syntax, including output redirection, piping, and background jobs.
- Carefully implements UNIX signal handling and process life-cycle management.

Fall 2016 **Navigation System**

- Developed in Java using the OpenStreetMap API and an XML parser, with functionality similar to Google Maps.
- Wrote a custom implementation of Djikstra's shortest-path algorithm for directions.

## 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 - Spr. 2019 **Member, Secretary** **Stony Brook Go Club**

- secretary, dc trip, gotham

Fall 2017 - Spr. 2018 **Member** **SBU Undergrad Algorithms Reading Group**

- Present algorithms and data structures of interest.