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

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experience

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.

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.

projects

Fall 2018 **Canvassing Application**
A web application written in JavaScript and Python that helps manage door-to-door campaigns. Keeps track of availabilities of canvassers and assigns houses to canvassers using Google's Vehicle Routing Problem solver. I worked mostly on the Python backend.

Spring 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 and connects using a custom protocol. Mountable on Linux and MacOS.

Spring 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.

Fall 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.

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.