

## Education

- Aug 2015 **Georgia Institute of Technology, Atlanta, GA.**  
May 2019 B.S. in Computer Science. **GPA: 3.90**  
Concentrations: Theory and Systems  
Sidney Goldin Scholarship for "outstanding leadership abilities"
- Sept 2014 **Princeton University, Princeton, NJ.**  
May 2015 Visiting High School Student  
Courses: Algorithms and Data Structures, Theory of Algorithms

## Research Experience

- Nov 2015 **Research Assistant, High Performance Computing Lab, Georgia Institute of Technology.**  
present
  - Conducting research on streaming graph algorithms under Dr. Oded Green and Prof. David Bader.
  - Designed parallel algorithms the Point-to-Point Shortest Path problem and Betweenness Centrality problem.
  - Conducted experiments on algorithms on high-performance systems using *C/C++*, *OpenMP*, *METIS*, *Infomap*.
- Summer 2017 **Research Intern, École polytechnique fédérale de Lausanne (EPFL), Lausanne, Switzerland.**
  - Worked under Prof. Willy Zwanepoel and Jasmina Malicevic in the Operating Systems Laboratory of EPFL.
  - Developed a memory layout for graphs that improved cache locality and NUMA-awareness.
  - Ran experiments using the new memory layout for algorithms (e.g. PageRank, BFS) with *C/C++*, *Cilk(Plus)*, *OpenMP*.
- Summer 2016 **Research Intern, Sandia National Laboratories, Livermore, CA.**
  - Worked in the Center for Cyber Defenders program.
  - Implemented distributed cache coherency protocol using *Go*.
  - Automated function summary generation for symbolic execution using *Python*, *angr*.

## Teaching Experience

- Jan 2016 **Teaching Assistant, Data Structures and Algorithms (CS 1332), Georgia Institute of Technology.**  
present
  - Led weekly recitations and office hours.
  - Designed exam structure, proctored, and graded exams.
  - Gave and graded weekly programming assignments in *Java*.
- Summers 2014, **Teaching Assistant, Program for Algorithmic and Combinatorial Thinking.**  
2015
  - Theoretical CS summer program at Princeton University.
  - Graded weekly problem sets and gave problem set review sessions to 40+ high school students.

## Industry Experience

- Spring 2015 **Software Engineering Intern, Bloomberg L.P., Princeton, NJ.**
  - Designed and implemented machine learning features to extract tables from PDF files.
  - Worked in the design and implementation of framework for representing PDF files internally.
  - Wrote machine learning software now in Bloomberg's production environment using *Java*, *Weka*.

## Projects

- StreamingBC Streaming betweenness centrality algorithm implementation with algorithmic optimizations, better load balancing, and fine-grained parallelism using *C/C++*, *OpenMP*.
- DistEstimation Dynamic point-to-point shortest path implementation with graph partitioning using *C/C++*, *OpenMP*, *METIS*, *OpenMP*.
- TilingGraphs Graph memory layout for improved cache locality and NUMA awareness using *C/C++*, *Cilk(Plus)*, *OpenMP*, *numactl*, *perf*.

## Skills

- Languages *Java*, *C/C++*, *Python*, *Bash*, *Verilog*, *Go*  
Tools *OpenMP*, *Cilk/Cilk Plus*, *OpenMPI*,  $\text{\LaTeX}$ , *Linux*, *Vim*, *Git*, *METIS*, *Infomap*, *perf*, *IDA Pro*, *angr*, *Weka*

## Honors

- 2015 **Computer Security Awareness Week Capture-the-Flag, New York University.**  
13th Nationally in College Division.
- 2015 **Codegate Capture-the-Flag, Seoul, South Korea.**  
17th Internationally in HS Division.
- 2015 **USA Computing Olympiad, Online, international.**  
Gold Division (highest at the time).