

## Education

**University of Illinois Urbana-Champaign** - GPA 3.95/4.00

May 2019

Bachelor of Science, Computer Engineering

*Persuing graduate studies in Computer Science starting Fall 2019*

Relevant Coursework:

- CS 374 - Algorithms and Models of Computation - A
- ECE 391 - Operating Systems - A<sup>+</sup>
- CS 461 - Computer Security - A
- CS 425 - Distributed Systems - In progress

## Experience

### Apple

Software Engineering Intern / May, 2018 - August, 2018

- Interned in Core OS organization on kernel team
- Developed new application performance profiler with DTrace framework
- Automated testing process with Python and Bash scripting
- Upstreamed 3 patches to the XNU kernel and shipped code in iOS 12

### Nvidia

Compiler Intern / May, 2017 - August, 2017

- Interned on CPU team in dynamic binary translation group
- Contributed to firmware that dynamically recompiles frequently executed code
- Optimized cryptographic operations and integer division
- Reduced instruction count by 50% in common crypto operations, improving I-Cache utilization
- Verified optimizations with internal framework using ARM assembly and Python scripts

### Research Group of Professor Christopher Fletcher

2018 - Present

- Analyzed security vulnerabilities in distributed machine learning systems
- Modified TensorFlow models and MATLAB scripts in developing a Proof-of-concept attack

### Research Group of Professor Rakesh Kumar

2016 - 2017

- Implemented C-Pack cache line compression algorithm in C++
- Conducted performance analysis of algorithm

## Activities and Leadership

### Promoting Undergraduate Research in Engineering (PURE)

President 2018 - Present

Committee Member 2016 - Present

- Interfaced with administration and faculty to recruit graduate student mentors
- Paired mentors with underclassmen for semester-long research projects
- Organized end-of-semester research symposia for students to showcase work

### FIRST Robotics - Team 111

Member 2011 - 2015

## Awards and Recognition

National Merit Scholar  
James Scholar  
Campus Honors Program  
Best Presentation Award - PURE Symposium

## Languages

<u>Proficient:</u>	<u>Developing:</u>
C/C++	Go
CUDA	R
Python	Haskell