

## EDUCATION

University of Illinois, at Urbana-Champaign, graduation: Dec 2018

**B.S. Computer Science and Statistics**

Courses completed:

Data Structures	Computer Architecture
Systems Programming	Computer System Organization
Parallel Programming	Programming Languages & Compilers
Applied Regression & Design	Numerical Methods
Statistical Programming Methods	Fundamental Mathematics
Calculus I, II, III	Statistics and Probability I, II

## EXPERIENCE

Software Engineering Intern, January 2018 - Present

Syngenta

- Created linear regression model to predict relative maturity of soybean plots using aerial imagery. Achieved 90% prediction accuracy with 3 day error tolerance.
- Built and deployed a web API for an internal tool to automatically scrape, correct, and label scientific table data from a PDF
- Worked on technical project management for a contract with a 3rd party vendor: created new tasks, defined specifications, validated completed work, and ensured clear documentation was created for internal web application.

GPU Architecture Intern, May 2017 - December 2017

NVIDIA

- Built automated regression testing framework in Perl to validate GPU application profiling tool
- Wrote benchmarks in CUDA C++ to deterministically set performance monitors in GPU for regression testing framework
- Studied and modeled potential performance improvement of compressing communication data sent over the interconnect in multi-GPU deep learning training systems.
- Developed an application graph-analysis tool in C++ and Python to analyze CUDA apps and identify their architectural bottlenecks.

Firmware Developer, February 2017 - May 2017

Mesh++, Champaign, IL

- Worked to provide WiFi services to UIUC, Chicago (Douglas Park), and in 3rd world countries (Tanzania) using wireless mesh networking technology.
- Developing firmware based on OpenWRT for router nodes. Implementing features such as a splash page, throughput measurement, and power consumption tracking as well as setting up scripts for routers to perform periodic tasks
- Designing and executing network tests, writing related segments of reports for competitions, investors, and advisors.

Technical Analyst Intern, June 2015 - August 2015

NetImpact Strategies, Vienna, VA

- Implemented CRM system (SplendidCRM) for client and specialized it according to client's requirements; Created comprehensive technical documentation to show non-technical employees how to perform tasks with the system.
- Planned and led seamless transition in productivity suites from Google apps to Microsoft 365 for 80+ employees; worked with employees and vendors to determine requirements and select an appropriate licensing plan.

## PROJECTS

- Pirate: A bittorrent client written in python that supports single-file leeching
- Transit-Alarm: Android app to alert user based on GPS location rather than time. Uses location-services API and Bay Area Rapid Transit API. written in Java.
- Dynamic-Memory-Allocator: Implemented malloc, calloc, realloc, and free with an implicit free-list, block-coalescing, and block-splitting. written in C.
- Shoe-Bot: Script to automate the add-to-cart process on [nike.com](http://nike.com) and [adidas.com](http://adidas.com). written in Python.

## LANGUAGES/TOOLS/SKILLS

- Languages: Java, C, C++, Python, CUDA C/C++, R, Haskell, Verilog (hardware description), Perl, SQL
- Tools: Docker, pyTorch, Flask, MongoDB, NCCL, Perforce, Git, SVN, MPI, OpenMP, Numpy, Selenium
- Skills: parallel programming, machine learning, UNIX shell programming, networking (TCP/UDP)

## AWARDS

- Eagle Scout - Boy Scouts of America, 2014