KASI MANIKUMAR

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EDUCATION

University of Illinois, at Urbana-Champaign, graduation: December 2018
B.S. **Computer Science** and **Statistics**

Coursework completed:

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

EXPERIENCE

Software Engineering Intern, January 2018 - Present
Syngenta, Champaign, IL

- Built and deployed a web API for an internal tool to scrape, correct, and label scientific table data from a PDF
- Developed linear regression model to predict relative maturity of soybean plots using aerial imagery. Achieved 90% prediction accuracy with 3 day error tolerance.
- Managed 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, Santa Clara, CA

- 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.
- Developed firmware based on OpenWRT for router nodes. Implemented features such as a splash page, throughput measurement, and power consumption tracking and set up scripts for routers to perform periodic tasks
- Designed and executed network tests, wrote 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

- Pyrate: A bittorrent client that supports single-file leeching. Uses tornado web server framework. written in Python.
- 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 and 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, Tornado
- Skills: parallel programming, machine learning, UNIX shell programming, networking (TCP/UDP)

AWARDS

- Eagle Scout - Boy Scouts of America, 2014