Rohan Mathur

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Education

University of Illinois at Urbana-Champaign *August 2014 to December 2017*
B.Eng., Computer Engineering
Emphasis on systems programming and backend web platforms with strong interests in OS Architecture & Design. Selected upper division coursework includes Advanced Operating Systems (Graduate-level), Advanced Computer Architecture (Graduate-level), Computer Systems Engineering (Systems Programming), Data Structures, and Algorithms.

Experience

NVIDIA Santa Clara, CA
Incoming Software Engineering Intern *January 2018 to March 2018*
Working on the Tegra SoC Performance team within the Android Platform Team.

Microsoft Redmond, WA
Software Engineering Intern *May 2017 to August 2017*
Worked on a cross-functional system frameworks team on the next release of the Windows OS.

- Architected, documented, and led the development of a feature to enhance the Windows Search experience.

Airware San Francisco, CA
Software Engineering Intern *May 2016 to January 2017*
Worked across the stack of the Airware drone platform (Go/Java/C/Python) to increase customer engagement.

- Improved embedded application connectivity with the Cloud backend, enabling offline use of the platform.
- Implemented features such as autogenerated flight plans and prototyping the future of Airware Ground Control.

Rithmio Champaign, IL
Software Engineering Intern *August 2015 to January 2016*
Responsible for the development of an Android application prototype demonstrating Rithmio's award-winning gesture recognition machine-learning SDK applied to the physical therapy context.

Wyng (formerly Offerpop) New York City, New York
Software Engineering Intern through the hackNY Fellowship *May 2015 to August 2015*
Created a new Flask-based web backend microservice that enabled the company's new platform to operate more efficiently. Enhanced the current platform's Django stack improving reliability and monitoring throughout.

- Rapidly learned/worked with Python, Django, Flask, Backbone.js, React, and many other technologies.
- Built REST APIs, custom HTTP authentication processes, and database functionality into a Flask microservice.

Projects

AOKP (Custom Android Open Source OS) http://aokp.co
Lead Developer *July 2011 to June 2015*
Enhanced open source firmware distribution for smartphones and tablets based on the Android OS. Offers features and options not found in the official firmware distributed by vendors of these devices, including enhanced mutlimedia support, revised user interfaces/experiences, native theming support, and more.

- Led open-source project to boast over 11 million users around the world.
- Worked on vendor-distributed Linux kernel drivers and proprietary blobs to enhance device performance/features.
- Planned, executed, and code-reviewed several user-facing features that headlined on Engadget, The Verge, etc.

gyaradOS https://github.com/mathur/gyaradOS (private)
A minimalist, modern monolithic operating system featuring virtualized memory (segmentation and paging), ext2fs filesystem support, keyboard/mouse/RTC/PIT/sound drivers, ELF-formatted user program execution, multiple shells, round-robin scheduling, dynamically allocated memory, and more.

Pipelined Processor https://github.com/mathur/lc3b_pipelined_processor
A 5-stage pipelined processor supporting the full LC-3b ISA. Features split L1 caches, a unified L2 cache with cache arbiter, an eviction write buffer, MEM stage leapfrogging, instruction prefetching, and memory-mapped I/O support.

Positions & Activities

ECE 391 - Computer Systems Engineering – *Teaching Assistant* *Fall 2016 to Present*
CS 196 - Intro to Computer Science (Honors) – *Course Assistant* *Fall 2015 to Fall 2016*
IEEE UIUC Chapter – *Technical Vice President* *August 2015 to May 2017*
ACM@UIUC SIGMobile – *Co-Chair* *January 2015 to May 2016*