Brijesh Rakholia

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Work Experience

Viacom · Software Engineering Intern · New York — Summer 2016

- Worked closely with the Video Player Team to develop live-streaming support for MTV Apple TV app using tvOS and TVML. Launched the feature for the VMA's.
- Developed an internal tool using d3.js to visualize Git repositories in order to analyze software development practices.

PhoneLab · Systems Researcher · Buffalo, NY — Feb 2015 - Present

- Working towards quantifying and prioritizing smartphone Quality of Experience (QoE).
- Developing an offline-processing pipeline to analyze on-screen user interactions and events such as touch events, progress bars, screen freezing, etc.
- It combines low-level Android Logging (platform instrumentation) and analysis to measure the length of time user waits for apps to complete certain actions.

University at Buffalo · Computer Science TA · Buffalo, NY — Fall 2016

- CSE 250 Data Structures in C++
  - Hold office hours to help students one-on-one with course material and programming assignments.
  - Help students understand complex concepts and data structures such as recursion, binary trees, HashMap, etc.
- CSE 199 How Internet Works
  - Develop activities for students to help them better understand how internet as a service works.
  - Interact with students one-on-one during the class while they are working on activities.
  - Help develop tools and infrastructure used to maintain *internet-class.org*.

Software Projects (*more at github.com/brijeshrakholia*)

BridgeOS - An Instructional Operating System | C *(ops-class.org)*

Developed BridgeOS by implementing larger OS subsystems (three subsystems mentioned below) from scratch onto previously developed instructional OS/161 kernel at Harvard.

- Synchronization Primitives
  Implemented synchronization primitives such as mutex locks, conditional variables, and reader/writer locks.
- File System Calls and Process Support
  Designed and implemented the file system syscall interface (read, write, close, lseek, dup2, chdir) , and process support (exec, fork, waitpid) so that user-programs can be executed by launching a simple shell.
- Virtual Memory (top 1% of the class)
  Carefully designed and successfully implemented virtual memory, including address translation, TLB management, page replacement, and swapping – without any memory leaks.

Silver | JavaScript, Python
Wrote a slack bot and a web crawler to book private rooms every midnight at University at Buffalo Libraries.

HiSpy | Java, Flask, MongoDB
Developed an Android app with a flask backend to let people play "I Spy" based on geolocation.

Muvis *(muvis.herokuapp.com)* **| JavaScript, HTML, CSS**
Muvis is a music visualizer using d3.js developed at Spotify Music Hackathon

Robotic Arm *(tiny.cc/roboticarm)* **| JavaScript**
Designed a robotic arm to follow the movements of my hands in 3D space using leap motion and arduino.

Education

University at Buffalo
B.S Computer Science
Class of May 2017

Relevant Courses
Operating Systems, Database Concepts, Robotic Algorithms, Software Engineering, Algorithms, Computer Organization, Linear Algebra.

Skills

Preferred Tools and Languages – C++, C, Java, HTML, CSS, Vim, Node.js, Express, Git, Markdown, and AsciiDoc
Familiar Tools and Languages – JavaScript, Python, ES6, Ionic, Three.js, Paper.js, D3.js, MongoDB, Angular, Heroku, Atom, Jira, and Confluence.