# Brijesh Rakholia

## Work Experience

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#### **Viacom** · Software Engineering Intern · New York, NY

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

(phone-lab.org)

Feb 2015 - Present

- Worked towards quantifying and prioritizing smartphone Quality of Experience (QoE).
- Developed 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++
  - Held office hours to help students one-on-one with course material and programming assignments.
  - Helped students understand complex concepts and data structures such as recursion, binary trees, HashMap, etc.
- · CSE 199 How the Internet Works
  - Designed activities for students to help them better understand how the internet as a service works.
  - Interacted with students one-on-one during the class while they were working on activities.
  - Developed 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 primitive
  - 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)
  - Designed and 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.

Muvis (muvis.herokuapp.com) | JavaScript, HTML, CSS

Developed a music visualizer using d3.js during Spotify Music Hackathon

#### HiSpy | Java, Flask, MongoDB

Developed an Android app with a flask backend to let people play "I Spy" based on geolocation.

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** 

**Relevant Courses** 

**B.S Computer Science** Class of May 2017

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.