Brijesh Rakholia

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Work Experience

Viacom · Software Engineering Intern · New York — Summer 2016

- Developed an internal tool using d3.js to visualize git repositories which can be used to improvise software development practices.
- Worked closely with the Video Player Team and developed live-stream support for the MTV Apple TV App which will be used during MTV Video Music Awards.
- Resolved all the bug tickets during QA, and stage releases.

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

- Progresso : Debugging User-Perceived Latency in Android Smartphones
  with Scott Hasaeley, Nick DiRienzo, and Geoffrey Challen
  - Progresso is a system designed to use determinate and indeterminate progress bars to study user-facing latency on android smartphones.
  - It combines low-level Android Logging (platform instrumentation) and analysis to measure the length of time user waits for apps to complete certain actions.
  - Performed a preliminary analysis of approximately 3 days of Progresso data from 197 users interacting with 453 apps, and identified poor QoUI (Quality of User Interface) problems such as excessive waiting, lagging, and freezing.

University at Buffalo · Undergraduate Teaching Assistant · Buffalo, NY — Fall 2016

- CSE199 : How Internet Works
  - Hold office hours every week.
  - Record videos to make complex concepts easier to understand.
  - Teach recitations once a week.
- CSE250 : Data Structures in C++
  - Hold office hours every week.
  - Write tests for coding assignments.
  - Teach recitations once a week.

Selected Projects

(*more at github.com/brijeshrakholia*)

BridgeOS - An Instructional Operating System | C — Spring 2016

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 entire 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% out of 140 students)
  Carefully designed and successfully implemented virtual memory, including address translation, TLB management, page replacement, and swapping – without any memory leaks.

For more info please visit *ops-class.org* , and if you need access to the codebase then please email me.

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

Muvis is a music visualizer usign 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.

Leadership & Awards

- Hackathon mentor at MLHPrime 2016, held at Bell Works.
- Taught 40+ high school kids intro to programming in India.
- Mentored Team India for FIRST Championship at St.Louis 2013. Won Best Teamwork Award.
- Lead developer for FIRST Championship at Germany 2012 and got felicitated by Narendra Modi after winning the Champions Trophy.

Education

University at Buffalo
B.S Computer Science
Expected May 2017

Relevant Courses

Operating Systems, Database Concepts, Robotic Algorithms, Software Engineering, Data Structures and Algorithms, Linear Algebra, and many more.