

# Brijesh Rakholia



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## Work Experience

### **Stark & Wayne, LLC** · Cloud Engineering Intern · Buffalo, NY

June 2017 – Present

- Currently working with cloud native technologies such as [Cloud Foundry](#), [Bosh](#), and [Concourse](#). More details about the project will be updated at <http://brijeshrakholia.me> soon.

### **Tutr** · Co-founder, Backend Engineer · Buffalo, NY

Aug 2016 – Dec 2016

- Tutr is a web application that provides on-demand tutoring service for college students, just like Uber.
- Built the Tutr backend infrastructure using [nodejs](#), [socket.io](#), [mongodb](#), and [auth0](#).
- Developed a [continuous integration](#) deployment bot for the website build cycle using [Slack API](#).

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

May 2016 – Aug 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 of the Video Music Awards 2016.
- Developed an internal tool using [d3.js](#) to visualize [Git](#) repositories in order to analyze software development practices.

### **blue Systems Research Group** · Systems Researcher · Buffalo, NY

Feb 2015 – May 2017

- 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 ([android 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

Aug 2016 – May 2017

- **CSE421/521 : Operating Systems (OS/161 by Harvard)**
  - Held office hours (8 – 10 hrs/week), organized and hosted multiple 24 hour hacknights to help students debug their virtual memory implementation.
- **CSE250 : Data Structures in C++**
  - Held office hours (5 – 10 hrs/week), and helped students with programming assignments.
- **CSE199 : How the Internet Works**
  - Developed tools & infrastructure needed for the course. Interacted with students one-on-one during the class.
- **CSE115 : Intro to Computer Science**
  - Held office hours (3 hrs/week), helped students with programming assignments, and taught recitations.

## Software Projects

(more at [github.com/brijeshrakholia](https://github.com/brijeshrakholia))

### **BridgeOS - An Instructional Operating System** | [C](#)

- **Implemented synchronization primitives** such as mutex locks, conditional variables, and reader/writer locks.
- 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.
- Carefully designed and successfully **implemented virtual memory**, including address translation, TLB management, page replacement, and swapping – without any memory leaks.

### **SpinBot (UBHacking Finalist)** | [Arduino](#), [Python](#)

Built a persistence of vision display for Slack from recycled 5.25" optical drives, LEDs, and Arduinos; capable of running in live `message ticker` via a custom Slack integration using Slack API.

### **3D Hologram Generator** | [Unity](#)

Built a Hologram Generator using a screen and acrylic sheet. Wrote a music visualizer using unity to project that visualization over the hologram generator.

### **Robotic Arm** ([tiny.cc/roboticarm](http://tiny.cc/roboticarm)) | [JavaScript](#)

Built a robotic arm to follow the movements of my hands in 3D space using [leap motion](#) and [Arduino](#).

### **Muvis** ([muvis.herokuapp.com](http://muvis.herokuapp.com)) | [JavaScript](#)

Muvis is a music visualizer using [d3.js](#) and [paper.js](#) developed at Spotify Music Hackathon

### **Silver** | [JavaScript](#), [Python](#)

Wrote a slack bot and a [web crawler](#) to book private rooms every midnight at University at Buffalo Libraries.

### **Network.js** | [JavaScript](#)

Developed a visualization using [js canvas](#) portraying a network. It is basically a simpler version of [particle.js](#).

## Education

**University at Buffalo** B.S Computer Science, Expected December 2017

**Relevant Courses** OS, Networking, Distributed Systems, Database Concepts, Robotic Algorithms, Software Engineering.