

PROJECTS

Insight | Developer

Microsoft Imagine Cup, World Semifinalist, Middle East and Africa

- Connected students to a tutor of their choice and transported them into a personalized classroom
- Developed a web based interface using React that pairs students with tutors and launches a VR classroom.
- Used High Fidelity, an open source collaborative tool that embodied virtual interactions
- Modified open source scripts to create several VR labs for students, like projectile motion

SynchronousFidelity | Developer

Cornell University Virtual Embodiment Lab, Ithaca, USA

- Tracked and visually represented user behavior occurring in Virtual Reality
- Used High Fidelity, an open source collaborative virtual environments for embodied virtual interactions
- Created a RESTful server to communicate between the VR client and a database
- Added an R correlation module, allowing for the creation of virtual entities that respond to changing synchrony
- Worked with researchers to fix bugs and run validation pairs.

JS-Netsim | Developer (Front End)

King Fahd University, Dhahran, Saudi Arabia

- Created an interface for visualizing complex network systems in web browsers.
- Developed a client-side graph generation algorithm for creating anisotropic graphs based on user specifications
- Integrated JSNetworkX, a popular port of Python's NetworkX library, for graph extensibility
- Assembled a UI for node dragging, graph generation, and preloaded graph selection from a server

EXPERIENCE

Cornell Virtual Embodiment Lab Research Assistant | (2016-present)

- Implemented a synchrony tracker in Virtual Reality (SynchronousFidelity)

Harvard Visual Computing Group Volunteer | (2016 summer)

- Helped integrate a volumetric brain slice viewer into Rhoana, a pre-existing project.

King Fahd University of Petroleum and Minerals Research Assistant | (2014-2016)

- Worked on a web based network simulator (JS-Netsim)
- Published 2 papers in conference proceedings

AWARDS

Microsoft Imagine Cup | Middle East and Africa | World Semi-finalist | International | 2017

Microsoft Imagine Cup Earth | algaetions.omshaikh.com | 3rd place | International | 2016

King Fahd University of Petroleum and Minerals | Algorithms Hackathon. 4th out of 100+ participants | National | 2016

PUBLICATIONS

Shaikh, Omar., Shahzad, Farrukh (2016). Visual-Netsim: Development of an Interactive Browser Based Network Simulator. Paper presentation at the Future Technologies Conference, December 6-7, 2016, San Francisco, California

Shahzad, Farrukh., Sheltami, Tarek., Shakshuki, Elhadi., **Shaikh, Omar** (2016). A Review of Latest Web Tools and Libraries for State-of-the-art Visualization. Paper presentation at the 7th International Conference on Emerging Ubiquitous Systems and Pervasive Networks, September 19-22, 2016, London, United Kingdom

EDUCATION

Dhahran High School | 2014-2018

Harvard Extension School | Various Computer Science courses | 2013 - 2016

I once had to sail a sunfish without my glasses. I can't see (much less do) anything without my glasses.