

ROSS(ZIYU) LIU

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EDUCATION

Cornell Tech at Cornell University

Aug. 2019 - May. 2020

Master of Engineering in Computer Science

Rensselaer Polytechnic Institute

Sep. 2015 - May. 2019

Bachelor of Science in Electrical Engineering dual Computer Engineering

GPA: 3.75 / 4.00

Undergraduate Teaching Assistant in Embedded Control, Dean Honor List

SKILLS

Courses: Data Structure, Algorithm, Database System, Network and Distributed System, Web Developer(Udemy), Machine Learning, Intro to AI, Computer Vision, Virtual and Augmented Reality

Programming: Python, C/C++, C#, Unity, SQL, Django, JavaScript, Git, CSS, HTML, Node.js

EXPERIENCE

Undergraduate Researcher, Smart Conference Room, Troy, NY

Jan. 2018 - May. 2019

Reflected Light Sensing for Precision Occupancy and Location Detection in Smart Conference Room

- Developed an algorithm for tracking occupancy with **Python** and **OpenCV**
- Built different test rooms with **Unity** based on the performance of algorithm and real rooms
- Improved the bench-mark to **89%** accuracy and reduced **24%** energy usage
- Developed an **API** for communication between backend algorithm and Unity simulation in real time

Research Assistant, IBM, Troy, NY

Mar. 2017 - Aug. 2017

Enabled multi-modal group-computers dialog, learning and understanding of group activities, reasoning, planning and facilitation of collaborative decision-making

- Embedded the **Analogy Generation Engine** inside the Mandarin project
- Extracted data from **DBpedia** with **REST API** in knowledge-explore application using **JavaScript**
- Employed knowledge-explore application and improved accuracy by **10%** of the analogy engines with new comparison model

PROJECTS

Enedin, Arup (Full stack)

Aug. 2019 - Present

Develop a mobile application that provides customized recommendations towards building energy savings goals in a cheap and fast way

- Develop web-based mobile application using **Ionic** framework with **Angular**
- Build a back-end local web server using **Flask** and **MongoDB** database
- Research on customer expectation and current solutions to generate experiment on prototype

Synesthesia, VR Immersive Music (VR)

Sep. 2019 - Present

Develop a VR application to improve the music-listening experience with Unity and Oculus Quest

- Decompose music based on frequency using FFT to align music with dance of gameobjects
- Develop start menu user interface and add visual effect to the scene

Medicine Management, Albany Guardian Society (Full stack)

Sep. 2018 - Dec. 2018

Developed a functional automatic medication dispenser for senior citizens

- Implemented **Django** web application on **Raspberry Pi** with functional **SQLite**
- Analyzed seniors requirements and designed the interface with bold text and an easy boot-up system using **JavaScript**
- Integrated calendar **API** for different groups of customers