

Haoran Wen

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EDUCATION

Rutgers University- New Brunswick

Fall 2017 - Spring 2021

- B.S. Computer Science
- Course Work: Data Structures, Computer Architecture, Linear Algebra, Calculus, Discrete Structures

SKILLS

- **Languages:** Python, Java, C, C#, C++, Swift, SQL, HTML/CSS/JS, English, Mandarin
- **Technologies:** AWS, Git, UNIX, Unity, OpenCV, Xcode, Flask, JAWS, VoiceOver, Arduino, Matlab, SolidWorks

WORK EXPERIENCE

Rutgers Center of Computational Biomedicine Imaging and Modeling & Aresty Research Assistant Program

Pathfinding Research Assistant

Fall 2018 - Present

Used: Unity, C#, Git, GitLab

- Worked on a team of 4 to develop methods to create a pathfinding algorithm that would model real life pathfinding in a dynamic environment
- Implemented A*, HPA* Pathfinding algorithms on hospital building scene in Unity
- Built system that supports multiple agents to use HPA* pathfinding simultaneously in parallel of each other to simulate crowds
- Created Influence Based HPA* by finding by integrating special influence values with vanilla HPA*
- Generated graphs to visualize the efficiency of A*, HPA* and Influence Based HPA*
- Documented and organized the code base on GitLab
- Wrote a design document for the Influence Based HPA* algorithm to be used in the final research paper
- Will present the research at 2019 Aresty Research Symposium to other research and industry professionals

Rutgers Laboratory of Computer Science Research

Hackerspace (a hacking/making lab) Staff

Fall 2017 – Fall 2018

- Oversaw activities in the lab
- Managed and maintained the equipment in the lab which includes, 3D printers, Linux machines, VR devices, GPU computers, sensors, etc)
- Assisted and taught students how to operate the array of machines and devices in the lab
- Provided walk-in mentoring for 100-200 level CS courses

SELECTED PROJECTS

Look Closer (Co-Designer @ MIT ATHack)

Used: Python, Opencv, Tensorflow, Android, Google Cloud Vision API

- Prototyped an application that performed real time OCR and contrast enhancement to allow low vision individuals to read text that are too far away or too small to use

Advertisement Reality ('Most-Likely to be a Unicorn' Award & BMW Sponsor Award @ MakeHarvard 2019)

Used: Swift, ARKit2, Xcode, Google Cloud Vision API

- Built a simulated AR car windshield application as a iPhone app
- Utilized geo-fencing and image recognition to identify and display real time information on vehicle's windshield to drivers

AR Pokédex IOS App

Used: Python, OpenCV, Keras, Xcode

- Built and trained a deep learning model to image data to identify Pokémon
- Deployed IOS app that uses the model for real time Pokémon identification