Ricky Banh

banhricky@gmail.com 646-707-7994 Portfolio LinkedIn

EDUCATION

Georgia Institute of Technology – M.S. Computer Science *August 2020 – December 2022*
Robotics and Computational Perception Specialization

SUNY University at Buffalo – B.S. Mechanical Engineering *September 2013 – May 2017*

SKILLS

Python, Java, C#, C++, Unity, HTML5, CSS, JavaScript, PostgreSQL, Vue.js, Express, Node.js, GCP Firebase, Git

COURSEWORK

Data Structures and Algorithms, Database Systems, Machine Learning for Trading, Human-Computer Interface, Robotics AI, Computational Photography, Artificial Intelligence, Game AI

EXPERIENCE

Georgia Institute of Technology *May 2021 – Present*
Graduate Teaching Assistant - CS7638 Robotics: AI Techniques

- Hosted weekly office hours for students and offered guidance on topics pertaining to classical artificial intelligence applications in autonomous systems and robotics
- Interfaced with Gradescope auto grader and built a stack trace parser to help students understand errors
- Drafted exam questions on topics such as Particle Filtering, search algorithms, PID control, and Simultaneous Localization and Mapping (SLAM)
- Performed code reviews and aided students in diagnosing and debugging their code

Hoamsy LLC *August 2020 – December 2020*
Full Stack Developer Intern

- Used Vue.js framework, HTML, CSS, and JavaScript to develop front end elements for a web application
- Performed backend data restructuring using hashing and cloud operations with Firebase in order to improve storage of user data
- Utilized SendGrid and Google APIs in order to create automated cloud functions
- Implemented rating algorithms that handled user matching and adaptation of legacy data
- Used SVG and wireframe tools to assist with UI/UX design

PROJECTS

Video Stabilization

- Implemented a rendition of auto-directed video stabilization software similar to what is used on YouTube to stabilize shaky video using Python and Python libraries such as OpenCV, NumPy and matplotlib.
- Applied foreground object removal mask algorithm consisting of Canny edge detection, contouring and gaussian blur to distinguish foreground and background objects
- Used a feature detector to calculate a linear motion model and create a camera path that represented various transformations in each subsequent frame. Linear programming was used to smoothen the camera path and output a more stabilized video.

Three Snails Isolation

- Created an AI agent capable of playing a variant of Isolation using Python and Jupyter Notebook
- Utilized adversarial search algorithms such as Mini Max and Alpha-beta Pruning to optimize AI agent
- AI agent is capable of winning against instructor's unique opponent AI approximately 95% of the time

Yelp Camp

- Built a web application that replicates the functionality of Yelp using HTML/ CSS/ JavaScript, Express and MongoDB. Users can sign up, log in, post pictures and leave reviews for various campgrounds.