Ajay Pai

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Education

University of Washington, Seattle, WA
(Expected) Graduation Year: 2023

B.S. in Computer Science

Experience

Software Engineer Intern | Autodesk
Summer 2020

- Working on the Synthesis project, a Unity based open source dynamics simulator for 3D models
- Developed a robust API and scalable ECS System to parse and render complex GLTF models
- Used C++ and Shell Script to create a native cross-platform file browser and Mac OSX installer

President & Vice President | FIRST Robotics Team 2976
2015 - 2019

- Coordinated and directed a team of 60 members
- Responsible for mechanical design, manufacturing, electronics and debugging/reviewing code
- 2018 Houston World Champions

Software Engineer Intern | Autodesk
Summer 2018

- Working on the Synthesis project, a Unity based open source dynamics simulator for 3D models
- Used C# and Unity for front-end and VR development

Teacher | Robot-U Academy
2017 – 2019

- Taught students (K-6) basic engineering and robotics such as torque and center of gravity

Projects

Personal Website | ajaypai.cloud
2020

- Built with Html, CSS, SASS and JavaScript to share my blog and projects
- Hosted using Oracle Cloud Infrastructure (*OCI*) and Apache

Ecosystem Simulation | Genetic Algorithms
2020

- Uses a three-attribute genetic algorithm to simulate natural selection between multiple species
- Uses Quadtree for collision/range detection to decrease O complexity from n^2 to nlog(n)

Predator-Prey Simulation | Cellular Automata
2020

- A cellular automaton that models population fluctuations in a predator-prey relationship

Blackjack Assistant | Android Application
2019

- Uses OpenCV and pattern recognition to identify cards in real-time and make calculated decisions

Maze Visualization
2017

- Uses recursive backtracking to procedurally generate solvable mazes of any size

Google AIY Project
2017

- Worked with the Google AIY team to create a voice activated chess engine.

Achievements

- FIRST Robotics Competition (FRC) Houston World Division Finalists 2019
- FIRST Robotics Competition (FRC) Houston World Champions 2018