JAMES RYAN ANDERSON

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EXPERIENCE

Graduate Researcher, ASPIRE ERC, Logan, Utah — April 2022 - Present

- Developed Machine Learning Algorithms using Python and Pytorch to predict energy usage at facilities and control chargers to load balance.
- Full stack development using React, Sequelize, Postgres, and Sqllite3 databases and REST APIs.
- Architected and developed a database and visualization infrastructure for all of the Utah Transit Authority charging stations and bus data collection, built in React and Postgres. Developed OCPP standard integration server to control chargers across Utah that are actively being used.
- Developed a Charging Reservation system that is deployed at the Electric Vehicle Roadway utilizing React, Sqlite, and REST APIs.
- Develop research on simulated and hardware robotics platforms. Current work in Human Trajectory Prediction and Navigation and Stealth Navigation. Use Python, Pytorch, Javascript, C#, and C++ for development. Additionally, we utilize Docker containers for much of our work for reproducibility.

Software Engineering Intern, Juniper Systems, Logan, Utah — January 2022 - April 2022

- Web and Mobile Development using .NET, Blazor, and Xamarin to build apps working with GPS systems and Agricultural systems.
- Used Git for version control and JIRA for bug tracking and Agile sprint planning.

Full Stack Development, Utah State University, — Summer 2021

- Solo-developed a Hacking Challenge using Django and Vue.js, hosting it on Digital Ocean for the Web Development course at Utah State University.

Web Development Teaching Assistant, Logan, Utah — January 2020 - January 2022

- Teaching assistant for the Web Development course. Covered HTML5, CSS3, Javascript, Vue.js.

EDUCATION

- Working on a Master's in Artificial Intelligence, Game Engine Development, and Robotics at Utah State University (Expected Graduation: May 2024)
- Computer Science B.S. and Mathematics B.S. with an Emphasis on Computational Mathematics at Utah State University.

PROJECTS

- Used a Transformer architecture for energy usage prediction and a Reinforcement Learning Algorithm to set curtailments on Electric Vehicle Chargers for load management, published in ITSC 2023
- Developed Visual Stealth algorithms for stealthy navigation on Robots which was published in IRC 2023.
- Developed an Expo React Native application for a client called RecolleX, which is currently on Testflight and will be on the Google Play Store soon.
- Currently developing an Acoustic Stealth Navigation paper that utilizes ROS2 and aims to navigate from point A to point B without being heard using acoustic propagation estimations.
- Awarded First Place award in Hack USU 2022 24-hour competition for Game Development
- Awarded Second Place award in Hack USU 2023 24-hour competition for Game Development
- Developing my own Game Engine, writing everything from scratch including OpenGL graphics, in C++. (Github: https://github.com/sonorousduck/Ebony)
- Developed 20 of the 30 puzzle maps for "That Makes Sense", a game published on Steam.
- Personal Portfolio website developed using React and AWS: www.sonorousduck.com
- Developed a Deep Reinforcement agent to play Super Smash Melee. Django was used to build a server-client model to perform training across a distributed system. https://github.com/sonorousduck/SuperSmashBot