Nikolas Achatz

github.com/nachatz • https://nikolasachatz.com/

EXPERIENCE

Computer Science Tutor January 2021 - Current
Tutor.com | Remote

- Certified C++, C, and mathematics tutor for Tutor.com.
- Work in a fast-paced environment requiring strong knowledge of the subject matter to be able to teach it in a multitude of ways.

Software Developer – Research Assistant (Student) March 2021 - Current
Oregon State University| Corvallis, Oregon

- Work with C#, .NET (ASP), and JavaScript to develop/research solutions for Teach Engineering (Azure).
- Utilizing RavenDB (NoSQL) to update visualization data based off any changes to educational standards.
- Work closely with the University of Colorado Boulder to integrate developed systems from Oregon State University.

Oregon State Game Development Club September 2019 - December 2020
AI Group| Corvallis, Oregon

- Implemented aspects of AI allowing non-human players to react and create an environment like human controlled units in Unity3D using C++ and C#.
- Worked closely with artists, game designers, and networking groups to implement our development into the game seamlessly.

Oregon State Artificial Intelligence Club – Vice President November 2020 - Current
Corvallis, Oregon

- Attend weekly meetings to work on and discuss/work on group projects (Deep Fakes, chatbots, etc).
- Vice President for the 2021 – 2022 school year.

PROJECTS

Advanced Mathematical Calculator - http://web.engr.oregonstate.edu/~achatzn/
Utilizing JavaScript, HTML, and CSS to create a tool that can calculate topics in Linear Algebra and Number Theory. Further, the website allows the user to visualize specific pathfinding algorithms including BFS, DFS, and A Star with or without barricades. This project is being worked on every day and will continue to have additions of more advanced mathematical topics and algorithm visualizations. End goal of the project is to create a rigorous web application that users can use to learn to implement these topics themselves or use as a resource to solve mathematical problems.

Deep Learning RC Car
Utilizing a raspberry pi FPGA, TensorFlow, and OpenCV to create a self-driving RC car. Follows given instructions and self-drives through a developed pathway. Capable of handling turns and intersections with the current focus to implement object recognition to react to different scenarios. Seeks to replicate the self-driving meal delivery robots on the Oregon State University campus.

Computer Vision Bot
Utilizing C++, Python, OpenCV, and multithreading to create a bot that can play video games. Examples include, cutting wood or mining in RuneScape. Bot is versatile and can be swapped to work in any type of environment that requires tracking of objects including more robust games like League of Legends or Dota 2.

PHILANTHROPY

Designed, created, maintained, and hosted the website for the 1st Annual March for Black Mental Health awareness event. Was one of the lead promoters for the philanthropic event to bring awareness to the cause. I worked closely with the International Honors Society in Psychology (Psi Chi) and the NAACP organization at OSU to promote the event to a vast audience.

EDUCATION

Oregon State University| Bachelor of Science in Computer Science Systems (ABET) Expected June 2022

- CS Courses GPA: 4.0
- Overall GPA: 3.6
- Minor in Mathematics - Focus in Linear Algebra
- Engineering Dean's List

Arizona State University| Bachelor of Science in Mathematics (Transfer) August 2017 - May 2018

- Overall GPA: 3.7

SKILLS

C++, C, Python, and C# (.NET) | Experience with R, MATLAB, SystemVerilog, TensorFlow, and Xamarin | FPGA
Git & GitHub | LaTeX | OpenCV | Agile / Scrum | Numpy | SQL & NoSQL (RavenDB)