Allen P. Chien

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Technical Skills

Languages	C/C++, Python, Java, MATLAB, MASM3, RUST, GO
Operating Systems	MacOS, Windows, Linux, ROS2
Domain Knowledges	Machine Learning(Supervised Learning, Reinforcement Learning, Deep learning, NLP), Simulation Systems, Robot Control Systems

Education

University of Wisconsin - Madison *Madison, WI* · 12/2023 - 12/2024
Concentration Computer Science · BS · GPA: 3.8

LaGuardia Community College (CUNY) *New York, NY* · 09/2022 - 12/2023
Concentration Computer Science · AS · GPA: 3.9

Work Experience

People and Robotics Laboratory (UW Madison), *Research Student* *Madison, WI* · 05/2024 - Present
- Simulate the Stretch robot in MuJoCo with ROS 2, handling controls and navigation.

BadgerRL (UW Madison), *Research Student* *Madison, WI* · 01/2024 - Present
- Simulate soccer-playing robots in SimSpark and use PPO to solve goal-kicking behavior.

Hunter College (CUNY), *Research Student* *New York, NY* · 06/2023 - 12/2023
- Researched multi-agent scenarios in games and conducted experiments with QMIX, MAPPO, and GraphMAPPO.
- Researched POMDP and Dec-POMDP solutions, focusing on finding fast and optimal methods.

LaGuardia Community College (CUNY), *Research Student* *New York, NY* · 11/2022 - 08/2023
- Engaged in impactful research alongside Dr. Praveen Khethavath as a member of the National Institute of Health Bridges, resulting in the publication of a paper in IEEE CSDE 2023.
- Built the machine learning application end-to-end pipeline and showcase through a website.
- Conducted binary classifications using ten distinct supervised and deep learning methods and analyzed their performance with F1 scores and accuracies.
- Performed feature engineering and natural language processing from raw email source, including data cleaning, data extraction, tokenization and standardization.

L'SPACE, *Intern* *Remote* · 01/2024 - 06/2024
- Research on Mars landing and Rovers navigation.
- Investigated machine learning methods focused on the analysis of satellite data for the purpose of detecting microplastics.

Projects

Beach Cleaning Robot, *ROS, C++, Python, Gazebo* *New York, NY* · 10/2023 - Present
- Aim to build multiple robots that cooperate with others and perform beach cleaning tasks.
- Build pub-sub and service-request frameworks for nodes to communicate with each other.
- Perform experiment via Gazebo simulation environment to test multi-agent settings.

Support Vector Machine, *C++, OpenGL* *New York, NY* · 11/2022 - 08/2023
- Developed a Support Vector Machine (SVM) model from the ground up, achieving unparalleled success with 100% accuracy on linearly separable datasets.
- Applied the Sequential Minimize Optimization (SMO) algorithm to effectively resolve the SVM dual problem.
- Utilized the OpenGL library to visually represent the SVM hyperplane.

SVM, *Python (Streamlit)* *New York, NY* · 03/2023
- Participated and won the First Place at the Bio x ML hackathon hosted by Hugging Face and Lux Capital.
- Executed fine-tuning on Language Models (LLMs), crafting a unified protein embedding across diverse protein modalities.