Hugo Garrido-Lestache Belinchon

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Summary

- Interested in AI, Reinforcement Learning and cooperative multi-agent systems and **1st** in the NVIDIA ROSIE Supercomputer Challenge. Published Author attending ICMLA 2025.
- Support me on YouTube at @HugoDoesAi and come checkout my WEBSITE.

Education

M.S. Machine Learning	**Milwaukee School of Engineering**	Jan 2025 - Aug2026
B.S. Computer Science (**GPA: 3.95**)	**Milwaukee School of Engineering**	Sep 2022 - Dec 2025
Game Design & Game Theory Course	**University of Lucca**	June 2023

Research Experience

Undergraduate Research Assistant | Published at ICMLA 2025 Jan 2025 – Present

Advisor: Jeremy Kedziora, Ph.D. *Paper* | *Blog* | *Talk* | *Code*

– Developed a TAAC, a novel Multi-Agent Reinforcement Learning algorithm to promote collaboration.

– Utilized self-play, curriculum learning and a novel algorithm to achieve state-of-the-art performance in a soccer environment and tower building environment.

– Came **1st** in the MSOE NVIDIA ROSIE Super-Computer Competition winning over $9,000 in prizes, presenting to Nvidia's VP of Software and VP of Medical Imaging.

Independent Research Projects

Research on Developing Education AI Tools Paper

Collaborators: Ethan Jeffers & Ethan Wrasman

– Developed various AI tools to enhance learning in early programming Education through LLMs.

– Statistically tested these tools to ensure their effectiveness and prevent potential misuse.

Research on Silent Video Sound Generation | Published at MICS 2024 (Oral) Paper

Collaborators: Adam Haile & Helina Mulugeta

– Utilized VQ-VAE to be able to embbed and map silent videos to sound.

Work Experience

Data Science Intern | Company: Direct Supply November 2023 – Present

– Ideated and Tested AI tools to solve problems. Heavily utilized RAGs, LLMs and AWS to build Full-Stack applications and prototypes, below are a select example:

– **Reverse Image Search**: Prototyped a system to search for products by image, allowing for faster product retrieval and matching.

– **AI Product Linking**: Improved AI systems to match products together based on semantic similarity using embeddings and a graph-network (Trade Secret).

– **AI Product Tagging**: Created a System to add tags/attributes to products automatically based on product data and instructions. This data can be used to group and filter products and feed future AI Models.

– **AI Product Web Scraper**: Created an AI tool to search, parse and combine unstructured data on the internet to augment the company's quality and quantity of product data.

Independent Projects

Wordle Solver AI Blog | Code

- Created an AI solver using Information Theory which achieves an average of **3.8 guesses** per game.
- Made optimizations to allow for faster computer on mobile device, by pruning potencial words based on letter frequency.
- Created a test suite to test performance to promote faster iteration during developement.

Snake Game Reinforcement Learning AI Blog | Code

- Created a Q-learning AI agent to learn to play the game achieving a **high score of 140**.
- Improved results by simplifying state & action space and tuning rewards and hyperparameters

Large Language Model - HugoGPT Blog & Outputs | Code

- Implemented an LLM from scratch using pytorch and trained it on a supercomputer.
- Results showcased correct grammar and punctuation, but failed to have coherent sentences due to lack of data, hardware and training time.

Emotion Recognition from Facial Images Blog

- Built a CNN for facial emotion recognition (e.g., happy, surprise, neutral) from images.
- Iterated on data gathering, preprocessing, model training, and evaluation to improve accuracy.

Mentoring & Activities

AI Club Mentor | MSOE AI Club Oct 2024 – Present

- Mentoring Undergraduates on AI concepts and algorithms.
- 2025 members ended up learning crutial techniques in developing ML models and created a CNN.
- 2026 members developing various projects such as agentic video segmentation, stock market prediction, and coloring grayscale images.

Programming Tutor | Milwaukee School of Engineering Sep 2023 – Dec 2023

- Working weekly with around 20 differentstudents to explain topics and concepts in Programming.

Adult Scout Leader | UK Scouts | Sep 2020 - Jun 2022
Scouts | UK Scouts | 2014 - 2021
Tau Beta Pi Member | Tau Beta Pi | Apr 2025 - Present

Awards

1st in NVIDIA ROSIE Supercomputer Challenge | NVIDIA | LINK
Runner-Up 2026 CRA Undergraduate Researcher Award (Top 2%) | CRA | LINK
6x Dean's List with High Honors Award | Milwaukee School of Engineering | LINK
5th in MICS Programming Competition | Midwest Instruction and Computing Symposium
Silver Duke of Edinburg Award | Duke of Edinburg
Invitation to AI Engineer Code Summit | AI Engineer | LINK
Fundamentals of Deep Learning | NVIDIA | LINK
Mr. MSOE 2023 | Society of Women Engineers
A* - Maths & A* - Computer Science & A – Physics | English A-Levels

Interests

Guitar | Climbing | Puzzles | Yo-yo | Cooking | Unicycle | Gaming | Youtube