

EDUCATION

Kennesaw State University

Master of Science in Computer Science

Kennesaw, GA

Expected May 2022

Kennesaw State University

Bachelor of Science in Computer Engineering (Magna Cum Laude)

Kennesaw, GA

Awarded May 2020

SKILLS

Languages: Python, Go, Julia, Nix, LaTeX

Technologies: Git, Linux, Docker, Tensorflow, OpenCV, SQL, GCP

Others: Machine Learning, API Design, Eagle Scout

EXPERIENCE

Graduate Research Assistant

Kennesaw State University

Kennesaw, GA

May 2020 - Present

- Proposed a solution for efficient sampling of experiences for training reinforcement learning models
- Created a reinforcement learning environment to allow an agent to learn to make classifications based on EMG data
- Expanded a clustering algorithm to initialize centroids up to 20% more effectively for image segmentation
- Developed a machine learning pipeline to support ecological research based on texture analysis methods

Software Engineer Intern

NCR

Atlanta, GA

May 2021 - August 2021

- Constructed a Go retail microservice for selling lottery tickets to corner a percentage of the global lottery market
- Improved developer productivity by automatically generating decorators for business logic with commonly used features such as logging, validation, caching, and tracing
- Submitted a machine learning based invention to reduce self-checkout transaction times and costs

Research Assistant

Kennesaw State University

Kennesaw, GA

Jan 2019 - May 2020

- Developed a serial interface from a microcontroller to a motor controller to create an autonomous wandering robot
- Improved robot wandering algorithm efficiency by 70% with a key image processing insight
- Collaborated with other assistants to create research proposals and receive funding

RESEARCH

- [1] N. Gardner, H. Khan, and C.-C. Hung, "Definition modeling: literature review and dataset analysis," *Applied Computing and Intelligence*, vol. 2, no. 1, pp. 83–98, 2022. [Online]. Available: <https://www.aimspress.com/article/doi/10.3934/aci.2022005>
- [2] N. Gardner, S. Yarmohammadtoosky, A. Phan, and Chih-Cheng Hung, "ISODS: An ISODATA-Based Initial Centroid Algorithm," 2021. [Online]. Available: <https://rgdoi.net/10.13140/RG.2.2.15591.11689>
- [3] N. Gardner, C. Tekes, N. Weinberg, N. Ray, J. Duran, S. N. Housley, D. Wu, and C.-C. Hung, "EMG Based Simultaneous Wrist Motion Prediction Using Reinforcement Learning," in *2020 IEEE 20th International Conference on Bioinformatics and Bioengineering (BIBE)*. Cincinnati, OH, USA: IEEE, Oct. 2020, pp. 1016–1021. [Online]. Available: <https://ieeexplore.ieee.org/document/9288035/>

PATENT APPLICATIONS

NutriVerify

NCR, *September 2020*

Paperless Lottery Tickets

NCR, *September 2021*

Targeted Gamified Ecommerce Service

NCR, *November 2021*