

Justin Whitfield

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EDUCATION

Mississippi State University

Bachelor of Science in Software Engineering; GPA: 4.00 / 4.00

Starkville, MS

Graduating – May 2024

EXPERIENCE

• USDA Machine Learning Research

Starkville, MS

Research Position

Dec 2023 - May 2024

- Built a multivariate linear regression model to predict the moisture content of grains based on their dielectric properties, enhancing the efficiency of the grain buy-sell process.
- Developed a system for rapid and accurate determination of moisture percentage (M%), significantly outperforming classical methods that could take over 20 hours for measurement.

• The Estée Lauder Companies

Long Island City, NY

Software Engineering Intern

May 2023 - Aug 2023

- Led an Agile team to ideate and develop a generative AI chatbot chat sales assistant for the Origins brand, which provided product recommendations and interacted with customers seamlessly.
- Presented final MVP to global brand president, where permission was granted for further development, a first for an internship project.
- Utilized a vector database of products and made semantic searches through OpenAI API queries and embeddings.

PROJECTS

• Quiz-AI iOS App

Personal Project

Oct 2022 - Current

- Developed and launched an iOS app that allows users to photograph a question then uses OCR to extract text from the image to provide an AI generated answer. Find out more at quizaiapp.com.
- Integrated OpenAI's API to provide answers to users' questions.
- Implemented Google Ads to offset the API usage costs.

• Recipe Vision

School Project

Aug 2023 - Nov 2023

- Fine-tuned a YOLO v7 model on a proprietary dataset of annotated grocery images to recognize ingredients from user-submitted photos.
- Integrated OpenAI API to generate real-time recipes based on the identified ingredients, paired with the Google Images API to dynamically fetch and display images of the generated recipes.
- Engineered a seamless user interface to capture ingredient photos and display recipes, optimizing for user-friendliness and efficiency.

• Nerf Quadruped Robot

School Project

Aug 2023 - Nov 2023

- Engineered a specialized control system to integrate a Nerf gun with a Unitree GO1 quadruped robot, achieving automated aiming and firing.
- Implemented object recognition algorithms to identify and track human targets, optimizing robot positioning for accurate shooting.
- Utilized electromagnetic solenoids for triggering the Nerf gun, controlled through serial port communication.

• NetDeals Ecommerce Website

School Project

Aug 2022 - Dec 2022

- Designed and implemented a full-stack ecommerce website.
- Features included seller dashboards, product listing creation/deletion, buyer cart functionalities, product comparisons, reporting tools, and return capabilities.
- Backend infrastructure was powered by Django, while the frontend was styled using Bulma CSS.

TECHNICAL SKILLS

Languages and Frameworks: Python, Sklearn, Pytorch, C, C++, Swift, HTML, CSS, Javascript, Flask, Django, React, Tailwind, SQL

Developer Tools: Git, Docker, VS Code, Visual Studio, WSL, Xcode, Linux