

Nicholas Wade

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EDUCATION

Purdue University

West Lafayette, IN

B.S Computer Science, Cert. Entrepreneurship & Innovation

Aug. 2021 - Expected May 2025

Relevant Coursework: Intro to AI, Data Mining & Machine Learning, Probability, OOP, Multivariate Calculus, Discrete Mathematics, Web Information Search And Management, Systems Programming, Statistics, Introduction to the Analysis of Algorithms, Entrepreneurship & Innovation

Awards: Purdue Vertically Integrated Projects Leadership Award For AIMM ICC Team

EXPERIENCE

Data Analyst Intern @ BDO Digital | Python, Machine Learning, C#, Data Engineering June 2023 - Present

- Enhanced factory safety by training a YOLOv8 CV model in Azure, leveraging 10k real & synthetic images
- Built a synthetic data generator to boost CV model accuracy by 15% by generating 5k labelled images
- Developed an internal application for data labeling, model training, real-time data ingestion & data visualization
- Wrote a Flask API to control a demo factory assembly line, enabling real-time operations & data analysis
- Contributed to GPT-4o RAG chat bot for summarizing, Q& A, & classifying medical/legal documents
- Wrote Python notebooks to manipulate client data into Microsoft Fabric for advanced data reporting & analysis
- Led a team of interns in researching and presenting new business opportunities in AI to upper management
- Worked full-time 2 summers & part-time 3 semesters during school (ongoing)

PROJECTS

Celerity | Solana Trading Platform Developer | Python, MongoDB, Flask, Py-Cord, Azure January 2024 – Present

- Solely developing a Solana network trading platform able to execute trades in 200ms @ **celerity.bot**
- Built custom RESTful API wrappers for Jupyter, Dexscreener, CoinGeckoTerminal, & Raydium
- Utilized a back-end tech stack of Python, Azure, MongoDB, Github Workflows, and CI/CD Python tools
- Currently achieved over 100 active traders with volume exceeding \$100k/700SOL
- Maintained an 11.5k line Python code base, concentrating on performance and streamlined documentation

AIMM ICC Lab | Machine Learning Team Lead | Python, OpenCV, YOLO November 2023 – Present

- Led 6 person ML team to develop CV models for an autonomous boat navigation competition
- Trained YOLOv8 on 2k images of buoys for multi-object detection & tracking
- Wrote 65ms RGB-D camera ingestion, object detection, & object localization pipeline
- Built a Gazebo simulation of competition environment for navigation pipeline testing
- Co-authored a **Technical Report** outlining the labs developments

VEX Robotics AI Competition | ACM SIGAI Team Lead | Python, C#, Unity 3D, C August 2021 – May 2023

- Team built an autonomous robotic agent able to navigate & compete in the VEX challenge
- Designed reward system and trained an RL agent in a Unity3D simulated environment
- Wrote a protocol in C to connect camera, motors, NVIDIA Jetson, & VEX brain
- Built YOLOv5 CV model with multiple pre-processing OpenCV filters for enhanced accuracy
- Co-authored **Pac-Man Pete: An extensible framework for building AI in VEX Robotics**

Discord Web Scraper Bots | Developer | Python, repl.it, MongoDB Nov 2020 – Sep 2021

- Developed bots that tracked restocking ecommerce items, NFT marketplace data, & user portfolios
- Wrote 3.7k lines of Python for 5 bots hosted on repl.it for 1.2k users & storing data in MongoDB

Various Video Games | Developer | C#, VS Code, OOP, Unity 3D, Git, Design Feb 2020 – Present

- Programmed multiple 2D & 3D video games in C# in Unity 3D w/ a focus on OOP & realistic physics

TECHNICAL SKILLS

Languages: Python, C#, SQL, C, Java, C++, Bash

Tools & Platforms: Git, VS Code, Jupyter Notebook, Azure, MongoDB, Google CoLab, UNIX, Docker, GitHub Workflows/Actions, Unity Game Engine, Gazebo

Frameworks & Libraries: TensorFlow, PyTorch, Pandas, Numpy, SK-Learn, Matplotlib, OpenCV, Ultralytics, Flask, Pydantic, Sphinx, OpenAI, Unity ML-Agents, Anaconda

Last Updated: August 2024