

# Connor Malley

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## Education

### University of Central Florida, Orlando FL

Date

- **M.S. Computer Science - 4.0 GPA, ORCGS Fellow**
  - Focus in Machine Learning and Computer Vision
  - Served as Graduate Teaching Assistant
- **B.S. Physics - 3.96 GPA, Summa Cum Laude**
  - Focus in Computational Physics
  - Computer Science Minor

December 2022

May 2020

## Work Experience

### Matrix Design Group LLC - Computer Vision Engineer

Mar 2023 - Present

- Full-stack development of an aftermarket AI-powered collision avoidance system for industrial and mining applications
- Finetuned and validated production object detection models for deployment on the edge using custom datasets
- Implemented MLOPs pipelines for training, compiling, testing, versioning, and iteratively improving models/data
- Led customer facing presentations on custom model deployments
- **Core skills:** Python, C#, Blazor, ZMQ, .NET, SQLite, PostgreSQL, Milvus, Azure, Multithreading, Multiprocessing, REST APIs, Git, CI/CD, DVC, MLFlow, LabelStudio, FastAPI, GitLab, Bitbucket, JIRA, Docker, Raspberry Pi, PiCamera, OpenCV, PyTorch, Tensorflow, TFLite, ONNX, YOLO, ViT, CLIP, DINO

### Oakland City University - Coding Bootcamp Instructor

Oct - Nov 2023

- Led multiple 3-hour sessions teaching middle school and high school students the basics of game development with Python and Pygame
- Included the creation of a text-based game, a classic snake game, and training a reinforcement learning model to play Flappy Bird
- **Core skills:** Python, PyGame, PyTorch

### L3Harris Adaptive Methods - Software Engineering Intern

Summer 2019 - 2020

- Implemented real-time SONAR processing algorithms in C
- Implemented unit tests and data visualization tools
- **Core skills:** MATLAB, C, C++, CMake, CTest, Python, Protobuf

## Personal Projects

- Developed custom skeleton-based action recognition model using BERT architecture
- Finetuned BERT & LSTM models to forecast stock prices using news data fused with technical indicators
- Developed custom action counting model using ResNet + temporal self-similarity + Transformer model
- OpenAI + Azure Functions chat API with semantic search capabilities using a vector store of my data
- Improved multiple house price prediction models using geographical clustering (K-Means / DBSCAN)
- Developed a CNN for estimating atomic potential barriers in 2D lattices to improve simulation runtime
- Created a dashboard for viewing and screening for stocks using Dash, Flask, Webull, and Yahoo Finance APIs
- Created a Next.js portfolio hosted using Azure Static with automated deployment via Github Actions
- Image inpainting using a custom CNN architecture

## Skills & Certifications

**Skills** (in order of competency) - Python, C, C#, SQL, Blazor, C++, .NET, HTML, CSS, Typescript

**Certifications** - Microsoft Certified: Azure AI Engineer Associate, Microsoft Certified: Azure AI Fundamentals, AWS Certified: Cloud Practitioner, DVC Iterative Tools for Data Scientists, Udemy: Advanced Modern C++, Udemy: Multithreading with Modern C++