

Dixon Zor

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EDUCATION

The Pennsylvania State University
College of Engineering
Bachelor of Science, Computer Science

Graduated: May 2025

PROFESSIONAL EXPERIENCE

Penn State Nittany Ai Alliance
Ai Application Specialist

June 2025 – present

Penn State University Park

- **Developed an automated student analytics dashboard** using Azure Container Apps and Power BI, orchestrating data synchronization between SharePoint and the GitHub API via Power Automate.
- **Researched and documented** technical requirements for Nittany AI Advance projects, creating implementation roadmaps for student teams to deliver on various projects deliverables (RAG, CNNs, PINNs) to partners including Lockheed Martin and West Shore Homes.
- **Implemented CI/CD pipelines using GitHub Actions** to streamline the deployment of API server scripts, ensuring continuous integration and real-time updates for performance metrics.
- **Built an internal AI development framework** to streamline the construction of complex Ai pipelines for students, ranging from standard RAG architectures to advanced Context-Augmented Generation (CAG) with state management.
- **Developed a Python-based CLI tool** to automate infrastructure provisioning across major cloud providers (AWS, Azure, GCP), standardizing deployment workflows for student developers.
- **Engineered an AI-driven code review system** utilizing GitIngest for repository flattening and RAG for contextual analysis; **reduced manual review time by over 50%** through advanced prompt engineering.
- **Designed a multi-stage computer vision pipeline** integrating Grounding DINO for object detection, SAM 2.1 for segmentation, and CLIP for semantic embedding comparisons to achieve high-precision similarity matching with golden tickets. (student's onboarding)

The Human in Computing and Cognition Research Lab

Undergraduate Research Assistant

May 2023 – 2025

Penn State University Park

- Designed **3 research environments** with Minecraft Malmo, using **Python, Java, and XML**.
- Conducted 25+ studies to model **cognitive biases** in human-Ai interaction using **ACT-R**.
- Developed **LLM chatbots** for Engineering Competitions using **Retrieval-Augmented Generation** and Model **Fine-Tunning** with **LoRa**.
- Created **automated data processing** and visualization pipelines for efficient data analysis and **model evaluations**.
- Maintained **code & research documentation** with regular commits via GitLab.
- Authored a paper **detailing Ai ethics and Chatbot developments**, published by **the American Society for Engineering Education (ASEE)**.

SKILLS/INTERESTS

- Languages: **JavaScript, Python, C, C++, MATLAB, SQL, HTML5, CSS, Assembly, Verilog**
- Frameworks: React, Node.js, **Next.js**, Flask, Bootstrap, Tailwind, Shadcn
- Developer Tools: Fastapi, Flask, VScode, Git, GitHub, Power Automate, N8N, Docker, Jupyter, Azure, GCP, AWS, **Postgres, MongoDB**,
- Others: Teams, SharePoint, Video editing, **Writing**, Public speaking, Gym

PROJECT EXPERIENCE

ML-Ops/Dev-OPS/Fine-tuning/Model Stacking

Fantasy football Prediction Ai web-app

Oct 2025 – Dec 2025

- Developed a **Stacked XGBoost Ensemble** to predict NFL player performance (2012–2024), utilizing **temporal lag** features and **Walk-Forward Validation** to minimize MAE across position-specific inference pipelines.
- Deployed a **cron-scheduled ETL pipeline** on **GCP** to ingest live weekly telemetry into **PostgreSQL**, establishing a scalable architecture for **continuous model retraining** and longitudinal data retention.

Video Editing Tools

User friendly tool stack for content creators

Aug 2025 – Sep 2025

- Developed and deployed a tool to download videos, audio, thumbnail and transcripts from social media using the **ffmpeg** library.
- Developed and **deployed a full-stack web application** that truncates silences in raw video footage, saving editors the time required to cut long clips for productions.