Donny Weintz

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EDUCATION

Purdue University | B.S. Computer Engineering　　　　　　　　　　　　　Aug. 2022 – May 2026
Artificial Intelligence and Machine Learning Concentration – GPA: 3.93　　　*West Lafayette, IN*

INTERNSHIP EXPERIENCE

Supply Chain and Manufacturing Intern – Assembly and Test　　　　　　May 2025 – Aug. 2025
GE Aerospace　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Cincinnati, OH*
- Partnered with mechanics to engineer a kit cart system and automate layout generation using Python
- Created a Python tool to analyze $280K of excess hardware inventory and export usage reports to Excel
- Communicated with suppliers to return non-conforming and excess parts, improving supply chain efficiency
- Built a barcode-based label system for 4,000+ hardware bins, streamlining inventory tracking between sites

Inspection Engineering Intern – CT Imaging　　　　　　　　　　　　　May 2024 – Aug. 2024
GE Aerospace　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Cincinnati, OH*
- Applied ASTM E1695 to create a Python module in Avizo for automated CT system performance testing
- Computed spatial resolution and contrast metrics (CDF, MTF, CNR) to within 5% of benchmark values
- Delivered a module that has since been industrialized for use in GE inspection workflows

PROJECTS

Nutrition Change Estimation from Video | *Python, PyTorch, Computer Vision*　　Aug. 2025 – Dec. 2025
- Built a video-based nutrition estimation system with the Purdue VIP Image Processing and Analysis Team
- Used YOLO for ingredient and cookware detection and MediaPipe Hands for user–ingredient interaction tracking
- Trained and evaluated models on Linux GPU servers, achieving 58% precision and 49% recall across 58 ingredients
- Presented the system and results in a research talk at the Fall 2025 Purdue Undergraduate Research Expo

Model Registry Platform | *Python, AWS, REST APIs, Flask, React*　　　　Aug. 2025 – Dec. 2025
- Engineered a full-stack Model Registry Platform with a Flask backend on AWS EC2, implementing REST APIs for model registration, metadata extraction, artifact storage in AWS S3, and model-rating workflows
- Built an interactive React dashboard for real-time model browsing, filtering, and evaluation
- Deployed and operated services using Gunicorn, GitHub Actions, and automated CI/CD pipelines for reliable releases

3D Fruit Ninja Game | *Python, PyTorch, Computer Vision*　　　　　　　Sep. 2025 – Dec. 2025
- Developed a real-time webcam-based Fruit Ninja game using hand tracking and gesture recognition for interactive slicing and game controls
- Designed and trained a custom PyTorch model to classify hand gestures for pause, restart, and quit controls
- Integrated the gesture recognition model with hand tracking and collision detection to enable responsive gameplay

Portfolio Website | *React, HTML/CSS, UI/UX Design*　　　　　　　　　Sep. 2025 – Dec. 2025
- Designed and implemented a personal portfolio website using React and CSS, showcasing projects, skills, and professional experience with a modern user interface
- Integrated smooth page animations and optimized the site for responsive desktop and mobile performance

Pedestrian Detection for Crash Avoidance | *Python, Computer Vision*　　Aug. 2024 – Dec. 2024
- Developed a pedestrian detection pipeline using HOG + SVM, achieving 90% detection accuracy
- Implemented sliding-window for multi-scale detection and optimized performance using hard-negative mining
- Communicated progress in technical reviews and presented at the Fall 2024 Purdue Undergraduate Research Expo

TECHNICAL SKILLS

- **Languages:** Python, C, TypeScript/JavaScript, HTML, CSS, MATLAB, SystemVerilog, Bash
- **AI/ML:** Computer Vision (YOLO, R-CNN, SSD), Deep Learning, Model Evaluation, Dataset Curation
- **Libraries & Frameworks:** PyTorch, OpenCV, Scikit-learn, Ultralytics, MediaPipe, Pandas, NumPy, Pillow, PyGame
- **Tools:** Git, GitHub, AWS (EC2, S3, IAM), Linux Servers, CUDA/GPU Computing, CI/CD, VS Code, Jupyter
- **Web & Systems:** REST APIs, Flask, React, Full-Stack Development, Frontend UI/UX

ADDITIONAL WORK EXPERIENCE

- **Costco Wholesale** | *Front End Assistant | Cincinnati, OH*　　　　　　May 2023 – Jan. 2025
- **Chipotle Mexican Grill** | *Crew Member | Cincinnati, OH*　　　　　　　May 2022 – Aug. 2022