

Henry Cheung

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Active Secret Security Clearance

EDUCATION

Purdue University

Major: Bachelor of Science in Computer Science & AI, 3.96 GPA

West Lafayette, IN

August 2024 – December 2027

PROFESSIONAL EXPERIENCE

Lockheed Martin

AI/ML Engineering Intern

Manassas, VA

May 2026 – August 2026

- Fine-tuned transformer models and applied self-supervised learning techniques to enable inference on previously unlabeled data.
- Trained and optimized multiple ML architectures in PyTorch, benchmarking tradeoffs across variable dataset conditions to select the most generalizable model.
- Engineered spectral data preprocessing pipelines (NumPy, pandas) and spearheaded a new signal processing technique that improved model robustness to noisy input.

Frontera

Head Machine Learning Engineer

West Lafayette, IN

August 2024 – January 2026

- Led AI/ML development for a startup platform by architecting and training custom PyTorch models, generating personalized project plans based on user goals and skill level.
- Directed integration of a custom RAG pipeline, combining proprietary models with LLM-based reasoning to deliver actionable, project-specific guidance to users.
- Designed and deployed full-stack infrastructure (MongoDB, Firebase, Next.js), bringing the platform to 100+ users.

Trinidad Benham Corporation

Software Engineer Intern

Denver, CO

June 2023 – August 2025

- Developed ERP software with interactive GUIs, collaborating with engineers and data scientists in an Agile workflow to streamline daily employee workflows.
- Self-taught C#, Visual Basic, and SQL to manage large company databases supporting 1,000+ employees.

PROJECT/RESEARCH EXPERIENCE

Roundnet Vision

Project Manager

West Lafayette, IN

June 2026 – Present

- Leading a 6-person team to build a computer vision pipeline that converts raw roundnet match footage into condensed highlight reels and structured stats.
- Directing three subteams (detection/tracking, event logic, video infrastructure) while personally designing rally segmentation and player-tracking modules using YOLO-based detection and ByteTrack.
- Set project technical direction and success metrics, targeting 85%+ rally-recall accuracy on unseen match footage.

Low Power Computer Vision

Undergraduate Researcher

West Lafayette, IN

January 2026 – Present

- Researching deepfake architectures to build real-time detection for video calls, generating text explanations for each flagged detection.
- Evaluating computationally efficient ML algorithms to build a real-time AI image detector optimized for constrained hardware.

Privacy Preserving Machine Learning

Undergraduate Researcher

West Lafayette, IN

August 2025 – December 2025

- Integrated multiple ML defense techniques in PyTorch and TensorFlow into a unified privacy-preserving pipeline.
- Analyzed ML defense literature to assess feasibility of generalizing defenses to more robust datasets and contexts.

SKILLS

- **Languages/Libraries:** Python, PyTorch, TensorFlow, Scikit-learn, pandas, NumPy, MongoDB, Pinecone, C, C#, C++, Java, Golang, Visual Basic, MATLAB, R, SQL (SQL Server), JavaScript, TypeScript, HTML, CSS
- **Software/Methodologies:** Agile Workflow, CI/CD, AWS, DevSecOps, Blender, Visual Studio, Visual Studio Code, Azure Data Studio, Git/GitHub/GitLab, Excel, Microsoft Office, PowerPoint, Onshape, STK, Docker, Unit Testing, JSON, Bash, Linux, Scripting, Version Control, Unix, JUnit, CAD, CUDA, .NET, AI-Assisted Development