

Tanay Jain

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EDUCATION

Purdue University

Expected Graduation: May 2028

BS Artificial Intelligence, Computer Science; Minor: Business Economics; GPA: 3.73 West Lafayette, IN

- Coursework: Data Structures and Algorithms, OOP, Linear Algebra, Discrete Math, Quantum Computing, VIP

EXPERIENCE

Apple

May 2026 – August 2026

Software Engineer Intern

Sunnyvale, CA

- Built and productionized **scalable AI video generation**, accelerating end-to-end workflows by **4x** for Apple's internal platform serving **200K+** users
- Integrated **15+ HeyGen APIs** and **20** generation controls across avatars, voices, rendering, and video quality
- Partnered with **HeyGen** to define Apple API requirements, evaluating **12** capabilities and shaping roadmap

IEEE – ROV (Remotely Operated Underwater Vehicle)

August 2024 – Present

Vice President + Software Engineer

West Lafayette, IN

- Built real-time underwater object detection pipeline achieving **92.6%** accuracy using **OpenCV** and **TensorFlow**
- Engineered **stereo vision algorithm** reducing **depth estimation error** by **18%**, generating **depth maps** and transforming them into **3D point clouds** for precise object reconstruction using **Open3D**
- Created a **360-degree photosphere stitching method** to generate immersive **underwater visualizations**

R&D Venture Studio (Startup Accelerator)

October 2025 – May 2026

Software Engineer

Remote

- Built end-to-end e-commerce automation platform using **Supabase**, containerized services, & third-party APIs
- Designed a **multi-stage workflow** with analytics to track product, supplier, and campaign performance
- Implemented automated **order orchestration**, including inventory sync, supplier selection, and delivery tracking

Boundary RSS

May 2025 – August 2025

Software Engineer Intern

Remote

- Trained **CNNs** on 5TB+ seismic data to detect hydrocarbon boundaries, raising detection accuracy by **23%**
- Built Python pipeline with **MSNoise**, Tomography, and FWI to refine subsurface velocity model accuracy
- Applied 3D viscoelastic modeling and Kirchhoff migration, **speeding up depth conversion** by **38.8%**

PROJECTS

VIP – Autonomous Motorsports

August 2025 – December 2025

Undergraduate Researcher

West Lafayette, IN

- Fine-tuned **TwinLiteNetPlus model** for semantic segmentation using synthetic autonomous racing data
- Built **automated synthetic pipeline** generating **5k+** labeled cone masks mapped onto track images

Rolls-Royce

August 2025 – December 2025

Undergraduate Researcher

West Lafayette, IN

- Built **data synthesizer** for aircraft engines leveraging public NASA records for Remaining Useful Life models
- Designed modular, physics-based **GAN** pipeline adaptable across multiple engine types, with **91% KS** similarity

Solar Score App

July 2024

Back End Software Engineer

Fremont, CA

- Built **FastAPI microservices** integrating OpenWeather, Google Maps and Zillow **APIs** to collect property data
- Developed **Java Spring Boot REST API** and scoring algorithm to predict solar panel efficacy from data
- Deployed backend to **AWS** using **EC2** and **S3**, enabling scalable cloud access to solar performance insights

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, C#, SQL, R, MATLAB, Javascript, TypeScript, HTML, CSS

Frameworks & Libraries: React, Next.js, Node.js, Express.js, NestJS, Spring Boot, FastAPI, Flask, AWS, Unity

AI & Data: PyTorch, TensorFlow, OpenCV, scikit-learn, pandas, NumPy, Matplotlib, RAG, Multi-Agent Systems