

PRANAV KARRA

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Education

The Pennsylvania State University

B.S Computer Science

Class of 2026

State College, PA

Relevant Coursework

- Discrete Mathematics
- OOP with Web
- Digital Design
- Calculus III

Technical Work Experiences

Machine Learning Intern 🔄

June 2024 – Present

Manipal Institute of Technology, Kasturba Medical College

Manipal, India

- I implemented HOG3D and other 3D feature extraction methods from scratch in NumPy, specially designed for arteries and reduced compute time from **24** minutes per image to **6** minutes.
- Contributed to the development of a 3D CNN-based classification model that accurately detects plaque buildup and calcium deposits in coronary arteries, achieving **86%** accuracy down to the tertiary artery branches.
- I worked on re-implementation and testing of segmentation models such as ImageCAS and nnU-net on our proprietary dataset.

Computer Vision Engineer

Sep. 2023 – Present

Penn State Robo X

State College, PA

- My role is to work with the computer vision group to track targets, predict movement, and dynamically generate 3-D spatial maps
- Collaborated with cross-functional teams (Mechanical, Embedded Systems, Computer Vision) to design, build, and program Battle-bots

Other Work Experiences

E-Sports Attendant

Dec. 2023 – Present

Penn State Campus Recreation

State College, PA

- I diagnosed and resolved hardware and software issues across 50+ PCs, Xbox, PlayStation, and Switch consoles in a high-traffic esports environment.
- I tracked and managed inventory of 50 PC components, 3 consoles, 75 games, and peripherals to ensure availability and rapid replacement.

Certifications

AI Science Training on Supercomputers

Feb. 2024 – April 2024

Argonne Leadership Computing Facility, Argonne National Laboratory

Chicago, IL

Machine Learning Specialization

June 2024 – Aug. 2024

Stanford University, DeepLearning.ai

Coursera

Projects

Elixir AI | *Figma, FCPX, Python, HTML, CSS*

Oct. 2023 – Dec. 2023

- I led the visual creation of a website, designing the entire interface using Figma and producing a compelling pitch video of an AI system that creates a comprehensive patient overview.

Raycast Extensions | *TypeScript, AppleScript, Node.js, Command Line, Raycast API*

Nov. 2020 - Mar. 2021

- Goodlinks Extension 🔄 - Open Source Extension that allows users to manage goodlinks (Mac link Manager) through Raycast
- skhd Extension 🔄 - Open Source Extension that allows users to view and edit skhd (Mac Keyboard Daemon) configuration through Raycast

Technical Skills

Languages: Python, TypeScript, C++

Technologies/Frameworks: SciKit-Learn, Pytorch, Node.js, SciKit-Image, pynrrd, pydicom, nibabel, NumPy, SciPy, OpenCV, Figma

Leadership / Extracurricular

CV Team Co-Lead

March 2024 – Present

Robo X

The Pennsylvania State University

- I co-lead a team of 12 members focusing on computer vision.
- I am responsible for overseeing terrain mapping and autopilot systems of the Sentry Bot.