

Anushcka Joshi

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EDUCATION

The Pennsylvania State University - Schreyer Honors College

State College, PA

Computer Science, B.S. & Digital Arts and Media Design, B.Des.

2023 - Present

- GPA: 3.83, The President Walker Award 2024, Dean's List, Engineering Undergraduate Council Award 2025

TECHNICAL SKILLS

Languages: Python, C, C#, Java, JavaScript, Processing

Core Domains: Computer Vision, Sensor-Hardware Integration, Interactive Graphics, Machine Learning

Tools and Frameworks: OpenCV, NumPy, SciPy, scikit-learn, torch, Unity, Godot, Android Studio

RESEARCH

Undergraduate Research Assistant

State College, PA

James Z. Wang Research Group

2024 - Present

- Built a CV pipeline to estimate scene lighting in Impressionist paintings using gradient and contour features
- Used a diffusion model to predict HDR light maps from painting images
- Ran hundreds of GPU jobs on Bridges-2 to test lighting predictions across a large painting dataset
- Generated environment maps from chrome-ball images and refined them with distributed GPU fitting

Co-Developer, DeliverC

State College, PA

Research Project under Dr. Suman Saha (CMPSC 311 Honors)

2025

- Co-authored SIGCSE 2026 paper, DeliverC: Teaching Pointers through GenAI-Powered Game-Based Learning
- Built an LLM-driven educational game in Unity with persistent player state and Google Sheets analytics
- Adopted by CMPSC 311 course as a classroom learning tool

PROJECTS

LightSteps | Processing, Kinect v2, OpenCV, Projector Mapping

December 2025

- Built an interactive floor installation that tracks multiple users from depth data and projects dynamic foot trails
- Implemented homography-based calibration to align 3D depth points with 2D projector space for spatial mapping
- Designed randomized octagonal fractal visuals that grow, morph, and fade in response to human movement

Embedded Interaction | Python, OpenCV, Raspberry Pi, Sensors, Audio

2023 – 2025

- Developed Pi-based applications for motion-triggered sound, touch-based interaction, and live camera tracking
- Tested and compared OpenCV trackers (CSRT, KCF, MOSSE, GOTURN) to see which held up best on low level hardware
- Used multithreaded video processing to keep tracking and audio responsive on limited hardware

SOFTWARE EXPERIENCE

Software Intern

Nov. 2021 – Apr. 2022

NewSpace Research and Technologies

Bengaluru, India

- Developed an Android app to read weather information at any location clicked on the map
- Built a peer-to-peer socket system for multiple UAVs to communicate without a central server

LEADERSHIP

Vice-President

2024 - Present

Assistive Technology Club

State College, PA

- Founded and led a student organization focused on designing technology for people with disabilities
- Built a Dexcom CGM API pipeline to analyze glucose data for a sustainable insulin-pod design concept
- Developing a Bluetooth-based item locator (beta) to help visually impaired people find personal belongings

Instructor, Girls Who Code

2025

Association of Women in Computing

State College, PA

- Taught Python programming to middle and high school students through hands-on coding sessions
- Designed interactive lessons to build computational thinking, debugging skills, and confidence in problem-solving
- Encouraged young girls to pursue STEM careers, promoting diversity and inclusion in tech