

Anusha Ratra

📍 New Jersey

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Education

Rutgers University

New Brunswick, NJ

B.S. in Electrical and Computer Engineering, Minor: Computer Science

GPA: 3.9/4.0

- Dean's List **Fall 2024, Spring 2025**

Technical Skills

Languages: Python, Java, JavaScript, C++, C#, SQL, MATLAB, HTML/CSS

Frameworks/Libraries: React, Node.js, OpenCV, MediaPipe, Flutter, jQuery

Tools/Platforms/Methodologies: Unity, Firebase, Git, Arduino, Unreal Engine, VS Code, LTSpice, Onshape, Agile, Scrum

Certifications: Data Analysis with Python (IBM), Accenture Software Eng. Simulation, CPD Level 5 –App Dev (Ongoing)

Projects

AI Dance Performance Evaluator – React, Python, OpenCV, MediaPipe

July 2025 – Present

- Building a full-stack AI tool that scores user dance against reference choreography using **33+** facial/body keypoints per frame
- Delivers personalized scoring logic based on movement style, timing deviation, and expression intensity
- Aiming to achieve **95%+** frame coverage accuracy and cross-browser compatibility on **90%+** of desktop devices

Gesture-Controlled Space Shooter Game – Unity, Python, C#, OpenCV

June 2025 – Present

- Developing Asteroids-style game navigated via real-time hand tracking, enable accessible play for users with limited mobility
- Integrating OpenCV-based gesture detection with Unity engine, optimizing input latency by **~90%**
- Tuning hand recognition and gesture smoothing for accurate player control in varied lighting conditions

Work Experience

Travel Radar

Remote

App Development Intern

June 2025 – Present

- Engineered core app features using Flutter and Firebase, enhancing UI responsiveness across platforms
- Integrated backend data handling in JavaScript, jQuery, and SQL to streamline user interactions and reduce latency
- Collaborated in Agile sprints with Git/GitHub, contributing to QA testing and UI/UX refinement

Kumon

Plainsboro, NJ

Kumon Instructor

September 2021 - June 2023

- Created individualized learning plans for **25+** students, boosting math and literacy performance by tailoring interventions
- Mentored **100+** hours, reinforcing problem-solving strategies and building student confidence and academic independence
- Reviewed **50+** worksheets/session to track trends, identify learning gaps, and apply adaptive tutoring methods

Leadership & Competitions

Science Olympiad

Plainsboro, NJ

Captain/Competitor

September 2018 – June 2024

- Led **15+** technical workshops to upskill peers in robotics, engineering, and data analytics
- **5th** place (Nationals) in Robot Tour; engineered a maze-navigating robot using sensors and autonomous logic
- Multiple podium finishes (**1st–3rd**) in advanced physics and design events at state and invitational competitions

American Rocketry Club

Plainsboro, NJ

Co-Founder

September 2023 – June 2024

- Founded and led a successful club that competes in the prestigious American Rocketry Competition
- Designed and troubleshooted a high-performing rocket using CAD that soared over **800** feet and protected an egg
- Strategized team meetings and timelines, focusing on iterative improvement based on launch data and peer feedback
- Conducted post-launch data analysis to optimize flight stability, refine payload protection design, and inform next-stage engineering decisions