# Dev Patel

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## Education

**Georgia Institute of Technology** — Atlanta, GA
*B.S. in Computer Science (Intelligence and Information Internetworks)* — *May 2028*

- GPA: 3.41
- Coursework: Data Structures, Linear Algebra, Object-Oriented Programming, and Computer Organization & Program

**Raritan Valley Community College** — Branchburg, NJ
*A.S. in Computer Science and Mathematics* — *May 2023 - 2025*

- GPA: 3.78
- Coursework: Assembly Language, Discrete Math, Multivariable Calculus, Statistics I & II, and Calculus I & II

## Technical Skills

**Languages:** Java, Python, C, C++, JavaScript, HTML, CSS, SQL
**Frameworks / Libraries:** React.js, React Native, Flask, FastAPI, NumPy, OpenCV, MoviePy, Streamlit, ML-Agents, Power BI
**Tools & Platforms:** Git, Docker, Linux, MongoDB, Nix, PyCharm, Google (ADK), Google Video Intelligence API

## Experience

**AI Intern** — Jul. 2024 – Aug. 2025
*Photon Insights* — *West Conshohocken, PA*

- Experimented with AI pipelines leveraging **large language models (LLMs)**, **NLP**, and **embedding-based search** to increase data retrieval accuracy by **27%** in classification and trend detection across financial and company datasets.
- Translated technical AI outputs, such as **entity clustering** and **real-time risk signals**, into product and marketing materials to demonstrate practical business applications of machine learning.

**Machine Learning Intern** — May 2024 – Dec. 2024
*Finplex* — *North Brunswick, NJ*

- Leveraged **large language models (LLMs)** to classify and extract key details from unstructured Indian bank loan documents, deploying with **Docker** and optimizing performance using **Ollama** to improve retrieval accuracy and data identification by approximately **25%**.
- Developed **NLP pipelines** integrating LLMs to enhance solution efficiency, achieving consistent and reliable results across diverse business and housing loan datasets.

**Research Intern** — Jun. 2024 – Aug. 2024
*NJIT Bader Research Group, Department of Computer Science* — *Newark, NJ*

- Researched and implemented **MC1**, **MC2**, and **MC3 (Monte Carlo)** algorithms for large-scale **spatio-temporal data**, integrating **DBSCAN** for cluster detection and developing methods to track objects across time and space.
- Optimized algorithmic performance using advanced **pruning techniques (MC2)** and **adaptive temporal adjustments (MC3)**, improving computational efficiency and scalability.

## Projects

**Dental Scanner — Open Wide** | *Flask, Python, SQLite, HTML/CSS, Roboflow, Computer Vision* — Sep. 2025 – Present

- Engineered a full-stack **AI-driven web application** using **Flask** and **SQLite** to automate dental image analysis and diagnostic reporting.
- Applied **transfer learning** to a pre-trained computer vision model with a custom-annotated dataset built in **Roboflow**, improving dental feature detection and achieving **63.2% accuracy** in real-time image interpretation.

**Arena Vision** | *Google ADK, Gemini Vision, OpenCV, NumPy, Streamlit, MoviePy, REST APIs* — Nov. 2025 – Present

- Engineered an **autonomous** sports highlight generator using **Gemini Vision, Google ADK,** and **OpenCV**, combining video, audio, and semantic analysis to detect and rank key gameplay events.
- Developed a scalable video processing pipeline with **Python, Streamlit, MoviePy,** while integrating **REST APIs**, and **Twitter's** chunked media upload for automated editing and publishing.

## Extracurricular Activities

**HyTech Racing (HyTech @ GT)** ***Software Engineer*** | *C++, Simulink, CAN, VectorNav* — Aug. 2025 – Present

- Optimized real-time data parsing and recording pipelines in **DriveBrain**, achieving **100% verified integration** of **VectorNav** and **SpeedBeam DBC** for accurate lap timing during Formula South Invitational testing.
- Developed embedded control software in **C++** and **Simulink**, enabling real-time **PID tuning**, reliable telemetry logging, and robust **CAN communication** across vehicle subsystems.

**Student Organizations** | *Georgia Institute of Technology* — Aug. 2025 – Present

- HyTech Racing, Big Data Big Impact, Data Science Club