Rohith Pallamreddy

Atlanta, GA 30322 | 470-609-4158 | p.rohith1907@gmail.com | linkedin.com/in/rohith-pallamreddy

Education

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science in Computer Science, GPA: 4.00/4.00 — *May 2027*

Experience

No Heat (Vertically Integrated Project) — Atlanta, GA
Research Group Member — *Aug 2025 – Present*

- Using geospatial datasets to learn more about the microclimate of Savannah, GA
- Using datasets like Global Earth Engine, Overture Maps, and USGS Lidar Explorer to create raster datasets of building height, canopy height, and land elevation
- Using tools like SOLWEIG and UROCK to calculate the UTCI of Savannah, GA to calculate the path of lowest heat risk between two points

System Technology Works — Alpharetta, GA
Computer Science Intern — *May 2024 – Aug 2024*

- Led a group of interns in a project using Ollama that ran an LLM on a humanoid robot (Zeus2Q) to improve the efficiency of its response time.
- Actively participated in a group that worked towards teaching a humanoid robot (Zeus2Q) how to push a cart.
- Actively worked in a group that worked towards optimizing our humanoid robot and its ability to walk forward.

Horror Hacks — Alpharetta, GA
Chief Organizer — *Oct 2022 – May 2024*

- Organized an international hackathon with 40+ participants for two years.
- Advertised Hackathon over various mediums to help increase participant count.
- Conducted tutorials and workshops to make sure beginners had enough knowledge to participate

Projects

LADEE Lunar Dust Risk Mapping & Path Optimization — *Nov 2025 – December 2025*

- Engineered two predictive models using NASA's LADEE dataset to quantify lunar dust hazards (glass-like shards); implemented a danger coefficient $(0-5)$ based on altitude, local time, and the "terminator effect."
- Developed a secondary model utilizing particle mass distribution, velocity variance, and impact frequency to assess risk for large-scale micrometeoroid debris.
- Utilized the **PyBullet Physics Engine** to simulate terrain-level dust accumulation and micrometeoroid impact dispersion to identify high-risk zones across lunar landscapes.
- Implemented a weighted **Dijkstra's algorithm** using danger scores as edge weights to calculate the safest rover routes, optimizing for both hazard exposure and temporal mission windows.
- Simulated the safest route using PyBullet to ensure feasibility of route.

Cosmetics Wizard (Full-Stack Ingredient Analyzer) — *Sept 2025 – Nov 2025*

- Built an AI/ML analysis tool for cosmetic safety; processed and cleaned complex chemical datasets using **Vector Embeddings** to detect synergistic relationships and hazards between ingredients.
- Developed a full-stack interface featuring a custom predictive scoring engine that generates a $0-5$ safety rating and identifies the top 5 "Best" and "Worst" ingredients from raw text input.

CounterPunch AI (Computer Vision Defense Analyzer) — *May 2025 – Sept 2025*

- Developed a full-stack application using **MediaPipe** and Computer Vision to analyze boxing defense; implemented **Time Series Complexity** heuristics to predict head movement and identify predictable patterns.
- Used a pose-detection engine to evaluate guard effectiveness, identifying "open windows" and vulnerable strike zones in real-time.
- Built a dashboard featuring dynamic graphing of head movement and a "Predictability Score" for athlete feedback.

Motorcycle Simulator Project — *Aug 2025 – Dec 2025*

- Developing a racing simulator via **Georgia Tech Create-X (Idea-2-Prototype)** to provide realistic simulation for the gaming industry.
- Utilizing **Fusion 360** for subsystem CAD design and an **Arduino-based control system** to map physical sensor inputs to low-latency game functions.

Certifications

AI Infrastructure and Operations Fundamentals | NVIDIA — *Dec 2025*
Bracketology with Google Machine Learning | Google — *Dec 2025*
GenAI and LLMs: Architecture and Data Preparation | IBM — *Dec 2025*
Generative AI for Data Science | Microsoft — *Dec 2025*

Skills

Programming & Data Science: Python (Pandas, NumPy, SciPy, Matplotlib, TensorFlow, Pybullet, Time Series Complexity, MediaPipe, Vector Embeddings, Artifical Intelligence), SQL, Java (OOP, Data Structures, GUIs), GeoSpatial Data (LiDAR, Raster, Vector, SOLWEIG, UMEP, QGIS, etc.)
Mathematics & Statistics: Descriptive & Inferential Statistics, Probability Distributions, Hypothesis Testing, Linear Algebra, Calculus, Discrete Mathematics, Proofs, Graph Theory
Tools & Platforms: Git/GitHub, Jupyter Notebook, VS Code, IntelliJ, Linux, PACE ICE
Fine Arts: Drawing (8 years), 3D Modeling & Animation (5 years)
Interests: Brazilian Jiu Jitsu, Rock Climbing, Formula 1, Baking, Mixed Martial Arts, Wrestling