Rohith Pallamreddy

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Education

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

Experience

REMAP Lab — **Atlanta, GA**
Undergraduate Research Assistant — *Jan 2025 – Present*

- Cleaned and analyzed **big data** including anonymous cellphone tracking and travel routes
- Applied **map matching algorithms** to improve route accuracy and usability
- Identified trends in travel behavior related to **heat risk** and census data

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

- Analyzed **geospatial datasets** to study microclimates in Savannah, GA
- Created raster datasets of building height, canopy height, and land elevation using **Global Earth Engine, Overture Maps, USGS Lidar Explorer**
- Calculated **UTCI** via SOLWEIG and UROCK to determine paths of lowest heat risk

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

- Led interns to run **LLMs** on humanoid robot (**Zeus2Q**) using **Ollama** to optimize response time
- Improved robot capabilities to **push carts** and walk efficiently through collaborative optimization

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

- Organized international hackathon with 40+ participants over two years
- Delivered tutorials and workshops for beginners, increasing participation and engagement

Projects

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

- Built predictive models using NASA's **LADEE dataset** to quantify lunar dust hazards; implemented danger coefficient $(0-10)$
- Simulated terrain-level dust accumulation and micrometeoroid impacts with **PyBullet Physics Engine**
- Calculated safest rover routes using weighted **Dijkstra's algorithm**, optimizing for hazard exposure and mission windows

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

- Developed AI/ML tool for **cosmetic safety** using **vector embeddings** to detect ingredient hazards
- Created full-stack interface providing $0-5$ **safety ratings** and top 5 best/worst ingredients from raw input

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

- Used **MediaPipe** and computer vision to analyze boxing defense and predict head movement to identify vulnerabilities
- Built **interactive dashboard** with dynamic graphs and "Predictability Score" for athlete feedback

Motorcycle Simulator Project — *Aug 2025 – Dec 2025*

- Developed **racing simulator** via Georgia Tech **Create-X** with realistic controls for the gaming industry
- Designed **CAD models** in Fusion 360 and integrated with Arduino-based control system for physical input mapping

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, MediaPipe, Vector Embeddings, AI), **SQL**, **Java**, GeoSpatial Data (LiDAR, Raster, Vector, SOLWEIG, UMEP, QGIS)
Mathematics & Statistics: Descriptive & Inferential Statistics, Probability, Hypothesis Testing, Linear Algebra, Calculus, Discrete Math, Graph Theory, Proofs
Tools & Platforms: Git/GitHub, Jupyter Notebook, VS Code, IntelliJ, Linux, PACE ICE
Fine Arts: Drawing (8 yrs), 3D Modeling & Animation (5 yrs)
Interests: Brazilian Jiu Jitsu, Rock Climbing, Formula 1, Baking, MMA, Wrestling