

Rohan Manu Nair

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EDUCATION

Georgia Institute of Technology

Bachelor of Science in Computer Science (GPA: 3.6)

Atlanta, GA

Expected May 2027

Forsyth Central High School

STEM Academy (GPA: 4.44W)

Cumming, GA

Graduated May 2024

EXPERIENCE

Application Engineer Intern

Waystar

May 2025 – Present

Atlanta, GA

- Researching and integrating LLMs with Google Vertex AI to develop a custom code copilot for internal software.
- Modernizing legacy systems supporting over 1,000,000 unique healthcare providers.
- Developed a PayPal integration to streamline transactions for enterprise clients.

Undergraduate Research Assistant

Georgia Institute of Technology

Aug 2024 – Present

Atlanta, GA

- Leveraging machine learning for Finite Element Analysis (FEA) on varied 3D models to improve simulation efficiency.
- Developed vision-based models, including convolutional neural networks, to detect and classify manufacturing defects.
- Collaborating with faculty to help establish AI minor programs at Georgia Tech.

Robotics Intern

Automation Direct

Jun 2023 – Aug 2024

Cumming, GA

- Maintained and optimized robotic applications to ensure uninterrupted production workflows.
- Automated analysis of tote performance data using Excel macros, boosting throughput.
- Developed a Python script to capture and store 100+ daily tote images with barcode metadata in a FTP server.

PROJECTS

Track My | *React Native, FastAPI, MySQL, Docker*

Jun 2025 – Present

- Designing a mobile app for community-assisted lost item recovery.
- Implemented an AI-powered image matching system utilizing OpenAI CLIP embeddings and FAISS for scalable similarity search.
- Implementing secure authentication with bcrypt and JWT tokens.
- Maintaining a FastAPI backend with MySQL and containerized deployment via Docker.

Robotic Control Web Application | *Vue.js, Java, Spring, PrimeVue, Axios*

Jun 2023 – Aug 2024

- Developed a web platform to monitor and manage three robotic systems in real-time.
- Integrated Axios-based API calls to a warehouse management system for live updates.
- Built error-reporting and tracking pages for operational issues.
- Created a barcode scanner page to update a Java backend with inventory data.

Cognitive Engineering Chatbot | *CFD, Optimization, L-BFGS-B*

Dec 2024 – Feb 2025

- Developed an intelligent decision-support chatbot integrating Computational Fluid Dynamics (CFD) with numerical optimization to refine cooling airflow parameters for server stacks.
- Implemented the L-BFGS-B algorithm to iteratively adjust inlet velocity under constraints, achieving optimal cooling without exhaustive simulations.
- Automated runtime optimization to reduce computational cost while maintaining simulation accuracy.
- Proposed scalable, energy-efficient thermal management solutions for data-center environments.
- Accepted at the 15th Annual IEOM International Conference, Singapore (Feb 18–20, 2025).

TECHNICAL SKILLS

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

Frameworks: Vue.js, React.js, FastAPI, Flask, JUnit, Spring, Axios, PrimeVue, ROS

Developer Tools: Git, GitHub, GitLab, Docker, VS Code, Visual Studio, PyCharm, IntelliJ, Postman

Libraries: Pandas, NumPy, OpenCV, DepthAI, PyTorch, PhotonVision, Scikit-learn, Streamlit