Vaishnavi Manivannan

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EDUCATION

Georgia Institute of Technology **Atlanta, GA**
B.S./M.S. Computer Science; GPA: 4.00/4.00 ***Expected Graduation May 2027***

- Concentration in Intelligence and Human-Computer Interaction
- Relevant Coursework: Data Structures & Algorithms, Discrete Mathematics, Linear Algebra, Object Oriented Programming, Objects and Design, Intro to Database Systems, Fundamentals of Digital System Design
- Leadership: Discrete Mathematics Teaching Assistant at College of Computing GT, Software Lead at Hytech Racing

SKILLS

Languages: Java, Python, C#, C++, SQL, Swift, TypeScript
Frameworks: React, Next.js, p5.js, Flask, ROS2, Kubernetes, Streamlit, LangChain, .NET, AutoGen
Developer Tools: GitHub, Jenkins CI, Xcode, MySQL, VS Code, Jira, PostgreSQL
Hobbies: Graphic Design, Baking, Weightlifting, Scrapbooking, Camping, Watching Video Essays on YouTube

EXPERIENCE

PricewaterhouseCoopers (PwC) **May 2024 – August 2024**
Software Engineer Extern *Atlanta, GA*

- Deployed a Gen-AI chatbot using BART models and built a sector-wide analytics dashboard with .NET Core for the Risk and Cyber teams (used by 33 engineers), automating validation workflows and reducing review time by 83%
- Engineered a data pipeline to keep track of API requests and user inputs using PostgreSQL for debugging

Hytech Racing - Formula Student (FSAE) Engineering Competition Team **August 2023 - Present**
Lead Software Engineer *Atlanta, GA*

- Lead a team of 15 software engineers to maintain, scale and improve live telemetry infrastructure using Python, Nix, and GitHub CI, automating key tasks with GitHub Actions
- Initiated development of a secure data query platform with 5 sub-team members using WireGuard, Docker and React while integrating the Go backend—now used by 200+ engineers at Hytech Racing
- **Won 1st place in Acceleration, Skid pad, Autocross (2024 FSAE EV Michigan)—fastest team in North America**
- Analyzed crash safety firmware through software/processor-in-the-loop testing using Python and Jenkins CI
- Built a Python tool to resample and align vehicle telemetry data at fixed time intervals, used by 100+ engineers

Microsoft Research **May 2022 – August 2022**
Software Development Engineering Intern *Remote*

- Engineered a multi-agent Copilot system that cut non-critical incident resolution time by 75%, saving $450 per case
- Architected an async workflow pipeline with Microsoft's AutoGen to enable continuous agent communication
- Evaluated 35+ agent profiles (goal-based, rule-based, ML-driven), boosting resolution efficiency by 40%

PROJECTS

Vehicle Documentation – Hytech Racing | *Docker, AWS S3, React, Go, Python, GitHub Actions*

- Engineered scalable backend APIs in **Go**, deploying them in isolated environments using **Docker**
- Developed a secure frontend interface for the database query site using **ReactJS**, **Vite**, and **Mantine**, enabling engineers to query vehicle data through an interactive web interface
- Automated **Protobuf** signal documentation with **GitHub Actions/CI** and configured **WireGuard** to ensure encrypted, engineer-only access within Hytech Racing

NewsPulseAI - Deloitte Innovation Challenge | *Jupyter Notebook, LangChain, Python, HTML, CSS*

- Implemented a **Streamlit** web app with an automated data pipeline connected to a **vector database**, using **LangChain** for sentiment analysis on 1,000+ business articles to forecast stock performance

GT StudyHive | *Firebase, PyTorch, p5.js, Java, HTML, CSS*

- Leveraged **p5.js** and **PyTorch** to process real-time student traffic data and predict occupancy levels at study spots across the Georgia Tech campus, updating the app with available locations