Ashvin Anilkumar

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Education

University of Wisconsin-Madison, Master of Science in Electrical and Computer Engineering   Aug 2025 - Dec 2026

- **Relevant Coursework:** Introduction to Computer Vision, Microrobotics, Marine robotics

Government Engineering College, Barton Hill, Trivandrum, Bachelor of Technology in Electrical and Electronics Engineering   Aug 2019 – July 2023

- GPA: 8.9/10 (First class with distinction)
- **Additional Coursework:** Minor in Information Technology

Work Experience

Engineer, Backend Development(AI/ML), Qburst Technologies - Trivandrum   Aug 2023 – Aug 2025

AI Search Using RAG & Agentic Flow

- Developed an AI search bar to efficiently retrieve information about the client's influence and contribution across various countries.
- Designed the system for improved response speed and optimized token usage by more than **56%**.
- Increased the accuracy of search results by **90%** and expanded the range of questions it can handle by **85%**.
- Tools Used: FastAPI, Langchain, LlamaIndex, MongoDB, Postgres, AzureOpenAI, AzureDevOps.

AI Report Reviewer System

- Built an AI-powered system for automated evaluation and feedback on technical reports of the client.
- Designed a core framework to generate unbiased reviews using **context analysis** and **coherence checks**.
- Developed a custom **scoring algorithm** assessing structure, clarity, and relevance of the document.
- Achieved **89%** similarity with human ratings and an **35%** increase in evaluation accuracy compared to human ratings, all the while reducing the cost of reviewing by **67%**
- Tools Used: FastAPI, Langchain, AzureOpenAI.

Academic Projects

Attitude Determination & Control of CubeSat using Triple Axis Magnetorquer   July 2022 – May 2023

- Fabricated and designed testbeds for performing experiments to test the subsystem.
- Designed the triple axis magnetorquers and developed a control system for independent maneuvering of the magnetic field intensity of each magnetorquer.
- Built an effective detumbling mechanism and an attitude maneuver with an accuracy of **9 degrees** and recognized as the best project of our batch.
- Tools Used: Embedded C, Python, STM32, Arduino, Raspberry Pi, KiCad, Texas Instruments Virtual Bench.

Leadership Positions

Records Manager of Gecb Student Satellite Program(GSSP): Conducted a 21-day internship for junior students focused on designing and fabricating magnetorquers and sensor calibration for CubeSat projects.

Chairperson of Photography Club: Led the photography club of the college. Developed strategies to streamline preparation and ensure easy access to the photo gallery for all students. Increased the reach of the club by **294%**

Skills and Extra Curricular

Open Source Contributions: Langchain, LlamaIndex, Dataherald

Languages: Python, Rust, JavaScript, Java, C++

Tools: Pytorch, ROS2, Raspberry Pi, KiCad, Langchain, Postgres, Linux, Git, Azure AI.

Extracurriculars: Music, Weightlifting, Photography, Badminton, Swimming.