

# Ashvin Anilkumar

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## Education

**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 – Present

- **United Nations Women Transparency Portal (Beta)** – Developed an AI search bar to efficiently retrieve information about the goals and achievements of UN Women with various countries.
- Designed the system for improved response speed and optimized token usage by more than **56%**.
- Developed a novel approach to enhance text summarization by integrating a RAG pipeline to improve the accuracy of arithmetic operations performed by large language models.
- Provided assistance in setting up the production environment which was capable of providing quick & accurate responses while handling multiple concurrent requests.
- Increased the accuracy of search results by **90%** and expanded the range of questions it can handle by **85%**.

## Academic Projects

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

- Fabricated and designed testbeds such as the Triple axis Helmholtz coil and Spherical Air Bearing 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.

## Open Source Contributions

**Langchain** August 2024

Resolved bug fix in AzureMLEndpointClient class of Langchain by updating the API endpoint structure.

**LlamaIndex** December 2024

Introduced a new operator for performing vector search in PG Vector Store and Nile Vector Store.

## 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.

**Publicity Manager of IEEE:** Implemented strategies to enhance the outreach of event posters and accelerate student participation in IEEE programs.

**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

**Languages:** Python, Embedded C, JavaScript, Java

**Tools:** Raspberry Pi, STM32, Arduino, KiCad, Langchain, Postgres, Texas Instruments Virtual Bench

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