

Tanmay Shukla

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Education

Georgia Institute of Technology | Atlanta, GA

Bachelor of Science in Computer Engineering, GPA 4.0

August 2024– Present

Expected Graduation, May 2028

Indian School Wadi Kabir (ISWK), Muscat, Oman

97.4/100 in the CBSE Class 12 AISCE Exam

May 2024

Skills

Programming: C, C++, Python, Java, SQL

Hardware: FPGA and Cyclone V using Quartus, VHDL and RTL design, Raspberry Pi, ARM mbed microcontroller, oscilloscope, logic analyzer

Software: Altium, Kicad, SolidWorks, GitHub, ModelSim Altera, Intel Quartus Prime

Communication: Design proposals, technical reports, instruction manuals, presentations (large and small audiences)

Languages: English(native), Hindi(fluent), French (novice)

Experience

Avionics Hardware Lead, Stack Systems Engineer, Georgia Tech Experimental Rocketry

January 2025 – Present

- Led avionics hardware team in designing the architecture and fabricating custom embedded systems for a two-stage rocket project targeting the Kármán line
- Fully designed and routed the ADCS board (flight computer), and collaborated on HW/SW co-design, including embedded C code development for flight control algorithms, integrating sensors, microcontrollers, and real-time data processing with Kalman Filter state estimation for telemetry, *optimized modular architecture for future FPGA/GPU acceleration in high-reliability environments like GPS/LoRa transmission and video processing.*

Radio/RF Engineer, Robocup, Robojackets

August 2024 - Present

- Developed the RF board responsible for radio communication between robots.
- Robocup finished Top 5 in the world's largest Robotics and AI competition 'Robocup' in Brazil this summer

Data Analyst, Jotun Paints

August 2023 – November 2023

- Collaborated with marine experts at Jotun to analyze data from the SeaQuantumx200 antifouling coating, applying engineering principles to assess speed loss due to drag, fuel efficiency, and environmental impact and recommend improvements.

Projects

Independent Research on Graphene Supercapacitors and its efficiency over traditional EDLCs

June 2022- December 2023

- The Graphene Supercapacitor demonstrated a 40% higher energy density compared to an EDLC of the same parameters.
- Presented this research at a national science fair and won 1st place out of 3000 Students and 20+ schools

PID line-following robot that doubled as a Bluetooth controlled Ps5 robot

November 2023-July 2024

- Won first place at a robotics competition at Modern College out of 500+ students in schools & universities across Oman.
- Designed the robot chassis using CAD and used IR sensors for line-following and an HC05 module to control the robot using a Ps5 Controller through Bluetooth.

Four Channel Servo PWM Controller in VHDL (FPGA)

May 2025-July 2025

- Built a hardware PWM controller in VHDL that lets a soft-core processor drive four hobby servos with 1.4° resolution and zero timing jitter. The design runs autonomously on a DE10-Lite FPGA—one register write from the CPU updates the servo, and the hardware handles all framing and safety limits.

Missile Blaster – Arcade Shooter on ARM Mbed (C/C++)

May 2025-August 2025

- Developed an embedded arcade-style shooter on the ARM Mbed microcontroller platform in C/C++, interfacing with a color LCD for graphics, input controls, and audio peripherals to implement responsive gameplay feature

Leadership and Activities

President, Quiz Club

May 2020 – May 2024

- Spearheaded recruitment of 140 members, a 30% increase and organized weekly quiz sessions for 140 members.