Aarjav Jain

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OBJECTIVE: Join a team of passionate embedded systems, electrical, or battery engineers. **(8+ months)**

TECHNICAL SKILLS

Languages: C, Python, C++, System Verilog (SV), ARM Assembly, Bash.
Hardware and Peripherals: STM32 MCUs, CAN, UART, I2C, I2S, SPI, ADC, GPIO, PWM, DMA.
Frameworks/Libraries: FreeRTOS, Embedded C, Linux.
Design Tools: STM32Cube IDE, GDB, Git/GitHub, Altium Designer, SPICE simulations, Docker.

EDUCATION

University of British Columbia **Expected Graduation: May 2027**
Bachelor of Applied Science - Computer Engineering **CGPA: 4.3**

ENGINEERING STUDENT TEAMS

UBC Solar **September 2023 – Present**
Electrical Director *June 2025 – Present*

- Leading our BMS, Power & Signals, Embedded Systems, and Race Strategy teams to produce a **reliable, low-power, lightweight** electrical system with real-time telemetry and **data-driven decisions** at **FSGP and ASC**.
- Driving **industry outreach** by gaining **sponsorships** and technical collaborations with major companies including Moment Energy, Intel, and NETGEAR to elevate UBC Solar's visibility and career pipeline.
- Spearheading the **design and review** in an **agile** environment to ensure compliance with **American Solar Challenge regulations** and **improvements** of our electrical system through **First Principles** thinking.
- **Motivating** and **aligning** a **75 member team** by promoting proactive communication between all teams, **driving high morale** and momentum throughout our design, integration, and competition.

Embedded Systems (EMD) Team Lead *June 2024 – June 2025*

- Strategized EMD's future with Solar's executives by **planning recruitment**, **resource management**, **member onboarding**, and EMD projects by consulting other teams and **translating strategy requirements**.
- **Unblocked all HW issues** and test setup time using **HW Verification Code,** increasing EMD's work efficiency.
- Conducted reviews and approvals for **GitHub PRs** and planned releases for our FW and Telemetry repositories.
- Our determination resulted in **6th out of 24** SOV class vehicles in the 2024 FSGP race, qualifying Solar for ASC!

Embedded Systems Engineer *September 2023 – June 2024*

- Developed our **telemetry** and **motor control system** by configuring **FreeRTOS** middleware and **CAN**, **I2C**, **UART**, and **DMA** peripherals for **STM32F103RC** chips on custom PCBs. Wrote the firmware using **VSCode**.
- Designed a **Python Flask** backend to read **PCAN**, **XBee** radio, and randomized data using **threading** and **cantool** libraries. The backend parses, stores, and visualizes CAN data on **InfluxDB** and **Grafana**.
- Efficiently debugged issues using STM32CubeIDE's **OpenOCD** + **GDB** server to use a **StackAnalyzer** and Expressions which assisted in **identifying bugs** in our telemetry and **main control board firmware**.
- Debugged hardware **CAN** issues with an **oscilloscope**, **multimeter**, **reworking**, and **root cause analysis**.

WORK EXPERIENCE

Intel – Emulation Engineer Co-op **January 2025 – August 2025**

- Developed a **Remote Procedural Call** interface to enable microcontroller **FW debugging** and trace during **emulation** on a **Synopsys ZeBu** using **C++**, **SV**, **JTAG**, **ARM DAP**, and a custom **AXI4** test interface.
- Utilized **Verdi** to debug and view test program execution on HW via **waveforms** and **SW trace/logs**.
- Implemented and documented a **standard build** and **runflow** to create our **Emulation team's workflow**.

NETGEAR – Software Developer Intern **April 2024 – December 2024**

- Developed a **Python client-server** model to monitor and validate **Orbi Topology Optimization** against TCP data rates, generating **PDF reports** on the network topology over time, which speeds up customer support by **90%**.
- Took initiative for **constructing multiple labs** involving **AutoCAD** layout prototyping, numerous test resources, an executive team, and task management to improve our **Orbi mesh product's development environment**.
- Utilized **Jira** and **GitHub** for tracking project progress, collaborative development, and distributing **scripts**.