Brahmajit Das

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Work Experience

• Lifespark Tech, IIT Bombay   **Mumbai, Maharashtra**
Firmware Developer   *September 2021 — Present*

- Posting firmware for other MCU models
- Implementation of communication protocol (**ESPNOW, Wi-Fi, MQTT, BLE**)
- Implementing cloud technologies using **AWS** and **GCP**'s SDK
- Research and Development

• Sironaaz Lab   **Calcutta, West Bengal**
Embedded Systems Engineer, Intern   *August — September, 2021*

- Ported existing system to different processor architecture.
- Refactor existing code and implement better communication protocol (SPI and I2C).
- Integrate UI with hardware.

Education

• Gurudas College   Kolkata, India
B.Sc. with Honors – Computer Science; CGPA: 7.493   *2018 – 2021*
Courses: *Operating Systems, Data Structures, Algorithms Design and Analysis, Databases, Networking, Machine Learning*

Core Technical Skills

- **Programming Languages**: C, C++, Java, LaTeX, Python, shell scripting, SQL
- **Tools**: Git, Docker, ssh, PlatformIO, FreeRTOS, ESP-IDF
- **Platforms**: Linux, BSDs, Windows, RaspberryPi
- $\mu-$**Processors**: ARM STM32, Atmega328p, ESP32

Personal Projects

• Interfacing with sonar module using Atmega328p: Using *AVR C* and **Atmega328p** to interface with **HC-SR04** (sonar module). **UART** was used as the communication protocol. Link to project.

• FreeRTOS on ARM STM32F103: Ported the FreeRTOS to ARM STM32F103C8T6 (Cortex M3), known as **Bluepill**. Then used to generate a PWM with Timer 2 as test case. Link to project

• My Compiler Writing Journey: Writing a C compiler from scratch, using the **acwj** as the base starting point. Link to project.

Open Source Contributions

• Gitlab Shell Changed the default logging format to **JSON** from plain text, was part of the **14.1 release**. GitLab Shell handles git **SSH sessions for GitLab** and modifies the list of authorized keys. Merge Request 467.

• DevOps Guide Contributed to **several chapters** of this popular DevOps guide (**3.8k stars**), including chapters for Virtual Machines, Linux commands and tools for DevOps and Firewall. *Link to all my contributions.*

Achievements

• HacktoberFest 2020: Among 70,000 participants, awarded goodies and cash prize.

• College Seminar: First position in college seminar. Using Arduino and HC SR04 module, created a sonar with GUI feedback.