

Brahmajit Das

✉ brahmajit.xyz@gmail.com — 📁 listout — 🔄 listout — 🌐 brahmajit

Education

- **Gurudas College**

Kolkata, India

B.Sc. with Honors – Computer Science; last SGPA: 9.01

2018 – 2021 Exp.

Courses: Operating Systems, Data Structures, Algorithms Design and Analysis, Databases, Networking, Machine Learning

Work Experience

- **Embedded Systems Engineer**

Sironaaz Lab — Calcutta, West Bengal

Ported existing system to different processor architecture, rewriting systems with for newer prototypes with faster communication protocols, integrating UI's with existing systems.

Skills Summary

Programming Languages:

C, C++, Python, JAVA, Bash, SQL, PHP

Tools:

Git, Docker, MySQL, SSH, PlatformIO, L^AT_EX, FreeRTOS

Frameworks:

OpenCV, Tensorflow, Keras, NumPy

Platforms:

Linux, BSDs, Windows, Arduino, STM32 Cube, RaspberryPi

Micro Processors:

Atmega328p, ARM STM32 (Cortex M3)

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.](#)

- **Brain Tumor Detection:** Using image classification algorithms (**CNN**, **VGG 16** and **ResNet 50**) to predict the presence of tumorous cells. Achieved up to **98%** accuracy. (*Project paper*)

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.](#)

- **Gitlab Runner** Updated test case names for `TestBuildJobStatusEnvVars`. GitLab Runner is the open source project that is used to run CI/CD jobs and send the results back to GitLab. [Merge Request 2907](#)

- **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:** Was among 70,000 participants. Was awarded goodies and cash prize.

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