MOHEE DATTA GUPTA

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EDUCATION

B. Tech and MS(by Research) in Electronics and Communication Engineering

International Institute of Information Technology

2018 – 2023 | Hyderabad, Telangana

CGPA: 8.28/10

CBSE XII

South Point High School

2018 | Kolkata, West Bengal

Percentage: 93.8%

WORK EXPERIENCE

Software Development Engineering Intern

Texas Instruments C I2C USB-PD type C Cryptography

May 2022 – Aug 2022 | Bangalore, India

- **Building an application on the existing framework of the USB-PD type C team.**

Application Engineering Intern

Silicon Labs Embedded C Python

May 2021 – Aug 2021 | Hyderabad, India

- **Contributed code to their exisitng APIs to support communication through SPI to remove the use of a host MCU.**

Student Researcher

PATRIoT Lab - IIITH Advisor: Dr. Aftab M. Hussain Flexible Electronics IoT ML

May 2020 - Present | Hyderabad, India

- Did mathematical modelling and FEA simulation for MEMS thermal actuator. Built a flexible pressure sensor based writing pad.

Research Intern

Jadavpur University Image Processing Advisor: Dr. Sheli Sinha Chaudhuri MATLAB

May 2019 - June 2019 | Kolkata, West Bengal

- . Explored various **digital image processing** tools and techniques using **MATLAB** and built a naive face detection software.

Teaching Assistant

Courses: Digital Systems and Microprocessors, Design For Testability, and Flexible Electronics

Jan 2021- Present | IIIT-H

- Took tutorial and lab classes. Part of course planning and assessment. Setting and evaluation of question papers for examinations.

ACHIEVEMENTS

- **Dean's Merit List:** Top 20% of batch for Monsoon '20 and Spring'21 semesters.
- Winner of Megathon 2021 sponsored by Qualcomm (prize money: Rs 75k)
- Listed in **top 0.5% in India JEE Main 2018** and **top 2% in JEE Advanced 2018 (IIT-JEE)**

SKILLS AND COURSEWORK

Programming

C++, C, Python, Embedded C, Verilog

Storage, misc.

OpenCL, MySQL, Apache Cassandra, Git, Arduino development, Assembly Language x86-64, Linux, COMSOL Multiphysics

Course Work

Statistical Methods in AI, Distributed Systems, OS and Algorithms, FPGA based Accelerator Design, Intro to NLP, Computer Vision, Intro to Processor Architecture(x86 and MIPS), Digital Image Processing, Finite Element Methods, Linear Algebra, IoT, DSA, C Programming

PUBLICATIONS

Gupta, Mohee Datta, et al. "Determination of thermal and mechanical properties of SU-8 using electrothermal actuators." MRS Advances (2022): 1-5.

PUBLIC PROJECTS

Dream 11 Java Cassandra

- Built a scoreboard similar to the Dream11 app. Using distributed database Apache Cassandra for data storage. The user-requests distributed between multiple nodes are created using Java RMI. Can handle upto **10 million** concurrent updates.

FPGA Accelerated K-NN with Bubble Sort C++ OpenCL AWS EC2

- Accelerated host code for K-NN by using AWS EC2 F1 instance FPGA. Wrote OpenCL code to achieve high parallelisation.
- Used pragmas, roofline analysis, and other techniques to get **130x** acceleration over CPU performance.

Wikipedia Search Engine Python

- A distributed search engine for a **large corpus (45GB)** of Wikipedia pages, performing case folding, tokenization and stemming to generate an index for the corpus for fast multi-word information **retrieval taking less the 50 ms**.

Time Varying Prediction of Images Python OpenCV

- Make a series of textures emulating weathering and de-weathering processes of a textured input image to predict what the given texture might have looked like in the past and may look like in the future.

Sentiment Analysis on Movie Reviews Python ML

- Using IMDb dataset to classify a given review as positive or negative. Used different feature extraction and classification techniques. **Highest Accuracy: 93.67%**.

POSIX Shell in C C Shell OS

- A Bash like shell in C using Linux system calls, includes user-defined commands, piping, redirection and signal handling.