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Meet Sable

Linkedin : meetsable
Github : meetsable

Education

Master of Applied Computing **2025(expected)**
Wilfrid Laurier University
Courses: Advanced Parallel Programming, Practical Algorithm Design, Cyber attack & defense, Applied Cryptography, Data Analysis, Enterprise Computing(Java)

Bachelor of Technology, Information and Communication Technology with minors in Computational Science **2023**
Dhirubhai Ambani Institute of Information and Communication Technology, CGPA: 7.56/10.00
Courses: C/C++ programming, DSA, Computer Graphics, Machine Learning, NLP, Speech Processing, Computer Networks, Software Engineering, High-Performance Computing

Technical Skills

C\C++ skills	C, C++, SDL, SFML, OpenGL, OpenMP, Working with different compilers (GCC, CLANG, MSVC, ARM-GCC), Shader Programming, ThreadX RTOS, OpenSSL
Python skills	Python, PyTorch, SkLearn, Pandas, NumPy, Matplotlib, Flask, Jupyter Notebook, Kaggle & Google Colab,
Soft skills	Docker, Linux, Git, CMake, Makefile

Experience

Scale AI **(Remote)United States**
LLM Model Trainer - Coding *Jan 2024 – Apr 2024*

- Worked on several projects on training a large language model. Project tasks mainly consist of critical thinking and designing challenging problems to fail the language model
- Developing ideal responses to a prompt related to software engineering
- Worked on projects with LLM tuned for Python, C++ and Javascript (Web dev)

Euler Motors - R&D Team **Delhi,India**
Software Engineer Intern *Jan 2023 – Jul 2023*

- **Worked on a large database in AWS Athena**. Designed and developed **SQL** query to merge two databases with different entry frequencies. Performed analysis on a range of time variances to reduce loss of data points.
- **Created setup and workflow for static analysis of embedded c code**. **Cleaned build warnings**. Created **commit hook** with automated build and **MISRA C** compliance check.
- **Developed CAN-TP protocol for ECU(electronic control unit)-to-ECU communication**.Developed **ISO 15765-2** software protocol that works over **CAN(control area network)** to send messages larger than 8 bytes(data length of a CAN message)
- **Developed firmware upgrade system in Embedded C**. Was responsible for the development of **FOTA flow for ECUs** connected with **CAN** bus. Developed a script that could perform the Firmware upgrade via an external CAN port. Developed Python scripts to test the complete FOTA flow over CAN bus and over Serial bus.

Dhirubhai Ambani Institute of Information and Communication Technology **Gandhinagar, Gujarat, India**
Teaching Assitant for DSA in C++ with OOP *Apr 2022 – Jul 2022*

- **Conducted lab session**. Conducted labs of 2nd year B.Tech students on data structure topics like queue, stacks and trees. Guided students and solved their doubts during the sessions.
- **Graded students assignments**. Proctored during the exams and graded students' assignments and exam submissions.

Dhirubhai Ambani Institute of Information and Communication Technology **Gandhinagar, Gujarat, India**
Summer Research Intern *Apr 2022 – Jul 2022*

- **Developed Image-denoising Framework**. Implemented iterative mathematical image-denoising algorithm in Python with NumPy, SciPy, and OpenCV libraries.

Projects

Real-Time CPU Rendering Engine - C++, **SDL**, GCC compiler **Git: MeetSable/3D-Graphics**

- Developed 3D rendering engine from scratch. Implemented different rendering pipeline levels, Reading **OBJ file**, **Compute lighting**, **2d Projection**, **hidden surface elimination**, **clipping**, Fill with shading (2 types: **Polygonal** & **Phong** shading). Implemented camera, and movement system to move around in rendered world in real-time. Used **SDL** for window, user input, text rendering (for debugging) and pixel drawing.
- Developed code with OOPs concepts to keep it modular and clean.

Speech Dereverberation via Generative Adversarial Traninig - Python, Pytorch, librosa, numpy, scipy **Git: MeetSable/speech_dereverberation_using_gan**

- Developed a **conditional GAN** in python with **Convolutional and Bi-LSTM layers**
- Implmeneted data generation pipeline by convolving two data sets (Libri Speech ASR corpus and RIR Dataset).

Conway's Game of Life Simulator - C++, **SFML**, MSVC compiler **Git: MeetSable/Game-of-Life-with-SFML**

- Developed Conway's game of life cellular automata in C++ and SFML library.
- Created UI to show performance information, and shape selector window.

Research Project - Parallelization of Huffman & Adaptive Huffman Encoding C++, **OpenMP**, GCC compiler **Git: MeetSable/Huffman_and_Adaptive_Huffman_Parallel_Implementation**

- Developed modules for Huffman encoding and Adaptive huffman encoding in C++.
- Designed and developed flow for parallelization of algorithms and testing over range of number of threads to identify optimal relation between time saving and compression ratio.

Diffie-Hellman Keyexchange and AES C++, makefile, openSSL **Git: diffie-hellman-keyexchange-and-AES**

- Implemented a workflow to demonstrate Diffie-Hellman KeyExchange and AES encryption in C++ using OpenSSL library.
- Explored best practices and industry standards when implementing such security systems.

Stock Price Prediction with Machine learning Python, Tensorflow, Scikit-learn **Google Colab: Stock Price Prediction**

- Explored the modern stock price prediction with statistical models Prophet and AARIMA, and Machine learning techniques, Neural Networks, RNN based network and LSTM based Network
- Compared their predictive performances using metrics like Mean Squared Error, Mean Absolute Error, R2 score, and Resudial plots.