Chathura Gunasekara
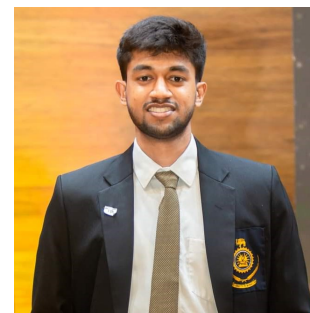
B.Sc. Computer Science and Engineering Undergraduate,

University of Moratuwa

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Mobile: +94 766652613

SUMMARY

- A 3rd year Computer Science and Engineering student at University of Moratuwa specializing in Integrated Computer Engineering. A multi-talented individual excelling in academics, sports and music among other responsibilities including executive membership at university societies and department representative. An academically, resilient student focusing on Robotics, Embedded Software Engineering, Machine Learning and Mathematics.

PROJECTS

- **RoboCon 2023 - Member of Team Mora - Representing Sri Lanka**
  Built 2 robots to compete at the RoboCon 2023 International Robotics Competition. I incorporated Image segmentation to identify targets and calculate distance using a kinect camera and a raspberry PI 3 board running on Linux and also handled holonomic motion modelling of one robot
  GitHub· RoboCon 2023 Website

- **IOT Air Quality Node**
  An embedded device that measure air quality by measuring CO_2 concentration, Dust Matter concentration, humidity and temperature. Integrated with a node-red dashboard to display the statistics and control the device using the dashboard[In Progress]
  GitHub

- **AgrIOT BLE Communication**
  Implement Bluetooth Low Energy protocol to transfer data from a soil sensor to a drone for the AgrIOT project.
  GitHub

- **Micromouse - Grid World Simulation**
  Implemented a Python Pygame based simulation of micromouse, which is a maze solving robot. Includes a text file based maze generator and a maze solver using Flood Fill and backtracking algorithms
  GitHub

- **Email Client**
  A CLI tool for sending emails[Semester 2 Project]
  GitHub

- **Wordle Bot**
  This is a wordle bot designed using the principles of entropy in information theory to predict the most likely word.
  GitHub

- **PintOS**
  Implemented PintOS Operating System.[Semester 3 Project]
  GitHub

- **RISSC Banking System**
An banking system application. I developed Backend and Database design to support Boyce-Codd Normal form and also preserve ACID properties. Database roles were used to enforce security and Procedures, Triggers were used to update the Database dynamically[Semester 3 Project]
`GitHub`

- **Tecview Online Website**
An LMS platform using Wordpress and LMS with Vimeo integration for video streaming
`Website`

EDUCATION

- **Undergraduate**   **(2021 - Present)**
University of Moratuwa.
CGPA: 3.8733
Dean's List: Semester 2 (3.96), Semester 3 (3.92), Semester 4 (3.93)

CORE SKILLS

- **Embedded Systems Development**
Arduino, PlatfromIO, Assembly, Esp32 Development Boards, ROS Programming, Node-Red

- **Embedded Networks**
I2C, SPI, BLE, LoRa, Serial Communication

- **Mathematics**
Linear Algebra, Numerical Methods, Operational Research, Applied Statistics

- **PCB Design**
EasyEDA, Eagle

- **3D modelling, Prototyping and Simulation**
Autodesk Fusion 360, Webots, JDE Robot

- **Digital System Modelling (FPGA)**
Vivaldo, VHDL

- **Web Development**
MERN stack, Flask, Three.js, MySQL, Postgres, MongoDB

- **Machine Learning and Data Visualization**
OpenCV, sklearn, Pandas, Numpy, matplotlib, seaborn

- **Programming Languages**
C, C++, C#, Python, Java, node, Logic Design, Vivaldo

- **Version Control, Automation and Containarization**
git, GitHub, CI/CD Testing, Docker

SOFT SKILLS

- **Teamwork and Team Management**
Played a role in organizing Wainadee 2023 orchestral music event and also performed as the orchestra conductor

- **Time Management and Work Management**
All rounder managing academics, sports, music and clubs and societies

- **Leadership and Communication Skills**
  Department representative, Speech Olympiad participant

Honours and Awards

- **RoboCon 2023**   **Represented Sri Lanka**
  August 2023

- **RealHack 4.0**   **1st Runner's Up**
  February 2023

- **Bashaway 2022**   **1st Runner's Up**
  December 2022

- **International Mathematics Competition 2022**   **Represented University**
  August 2022

- **IUHD Mathematical Olympiad 2022**   **Third Prize Diploma**
  April 2022

- **IEEEXtreme 16.0**   **All Island 15th position**
  March 2022   Show Credential

- **University Colors Insignia**   **Mens TT Team Champions**
  2022

- **Sangeeth Abhimani Award**   **1st Place All Island Ragadhari Sitar**
  July 2018

- **Table Tennis Pro Tour - Thailand**   **Under 12 Boys Consolation Champion**
  2012

- **Table Tennis Junior Nationals**   **Under 12 Boys Champion**
  2011, 2012

Certifications

- **Algorithmic Toolbox - UC San Diego**
  June 2022   Show Credential

- **CS50x Course - Harvard University**
  July 2021   Show Credential

- **Pandas Certification**
  September 2023   Show Credential

Volunteering

- **Department Representative**
  Acting as a CSE Department Representative for Semester 4, Semester 5
  July 2023 - Present

- **STEAM Pillar - Technical Team Lead**
  Sasnaka Sansada Foundation
  March 2022 - Present

- **Managing Director - Tecview Online**
  Online learning platform for budding Engineers, scientists and programmers
  March 2022 - Present

References

- **Dr. S.J.Sooriyaarachchi**
  Senior Lecturer
  Department of Computer Science and Engineering
  University of Moratuwa
  sulochanas@cse.mrt.ac.lk

- **Dr. Chathuranga Hettiarachchi**
  Senior Lecturer
  Department of Computer Science and Engineering
  University of Moratuwa
  chathuranga@cse.mrt.ac.lk

Declaration

- I hereby declare that the above mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above mentioned.