Indian Institute of Technology, Madras

Bommineni Chathur | CS20B018 | Github : chathur018

Education

Program	Institution	%/CGPA	Completion
B.Tech Computer Science and Engineering	Indian Institute of Technology Madras	8.27	2024
XII-TSBIE	Sri Chaitanya Jr. Kalasala	96.1%	2022
X-CBSE	Atomic Energy Central School No.2-Hyd	94.2%	2020

Scholastic Achievements

- Secured **All India Rank 600** in JEE Advanced 2020
- Secured **All India Rank 1104** in JEE Mains 2020
- Awarded **KVPY Scholarship** in SA-2018 (**Rank 402**) and SX-2019 (**Rank 296**)
- Qualified for and participated in Residential Science workshop 2017 conducted by Dr AS Rao Awards Council.
- Selected for and participated in CCMB Young Innovators Program 2017.
- Received Sandhya Gondhalekar Award and Sunil Mehta Memorial Award at Junior Science & Mathematics Olympiad 2017.

Relevant Coursework and Skills

- Discrete Mathematics for Computer Science
- Programming and Data Structures
- Language Machines and Computations
- Object-Oriented Algorithms Implementation and Analysis Lab
- Probability, Statistics and Stochastic Process
- Paradigms of Programming*
- Operating Systems*
- Basic Graph Theory
- Classical Physics
- Design and Analysis of Algorithms
- Computer Organization and Architecture
- Principles of Economics
- Compiler Design*

- **Languages**: C, C++ (proficient), Python, OpenGL (functional knowledge)
- **Software:** Git, LaTeX, Linux, AutoCAD, Blender, Unity
- **Codeforces Profile:** chathur_b **LeetCode Profile:** chathur_b

* - ongoing

Projects

CS2310 Course Project – Hack Computer *Dr. Chandra Sekhar* July 2021 - November 2021

- Implemented basic Combinational Logic Circuits using nand2tetris for arithmetic operations in Hardware Description Language.
- Further used them to implement a 16-bit Hack CPU that can perform various Arithmetic and Logical Operations.

CS2610 Course Project – Pipelined Processor Simulator *Prof. Madhu Mutyam* January 2022 - May 2022

- Designed and implemented a 5-stage scalar pipelined processor simulator in C++.
- Understood its working and measured metrics like number of instructions, cycles, stalls etc.

CFI Project - Cache Oblivious Algorithms July 2021 - March 2022

- Learned about and implemented Cache Oblivious Algorithms.
- Implemented efficient Cache-Oblivious Priority Queue data structure.
- Tested performance and cache efficiency against traditional algorithms.

Personal Project - OpenGL renderer May 2022 - Present

- Learned about the OpenGL graphics API and implemented a basic renderer in C++.
- Created a test framework using ImGui for testing various features such as colours, textures, transformations, lighting etc.

Personal Project - Software Ray Tracer May 2022 - Present

- Learned about rendering using ray tracing techniques.
- Implemented a basic software ray tracer in C++ with features like antialiasing, materials etc.

Positions of Responsibility

Project Member in Programming Club July 2021 - March 2022

- Worked as project member on "Implementing efficient Cache-Oblivious Priority Queue data structures in C++"
- Presented the project along with my teammates at CFI open house 2022.

EXTRACURRICULARS

- Won the 1st place in LitSoc '22 Valorant Tournament (along with 5 more team members).