Rohit Kinha

Bachelor of Technology
in Computer Science and Engineering
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Education

Degree	Institute/Board	CGPA/Percentage	Year
Bachelor of Technology	Indian Institute of Technology, Ropar	7.81 (Till 4th Sem)	2020-24
Senior Secondary	Central Board of Secondary Education	95.8%	2018-20
Secondary	Central Board of Secondary Education	93.2%	2016-18

Projects

- **UCP in Champsim** *Jan 2022 - May 2022*
  Computer Architecture **Github**
  - The objective of this project is to implement Utility Cache based partitioning in Champsim, which is a trace-based simulator for the study of microarchitecture.
  - UCP is a low-overhead, runtime mechanism that partitions a shared cache between multiple applications depending on the reduction in cache misses that each application is likely to obtain for a given amount of cache resources
  - It is implemented for N cores and for different replacement policies like LRU, SRRIP, and DRRIP.
- **CryptoPay** *Jan 2022 - Present*
  Personal Project **Github**
  - The objective of this project is to implement Utility Cache based partitioning in Champsim, which is a trace-based simulator for the study of microarchitecture.
  - UCP is a low-overhead, runtime mechanism that partitions a shared cache between multiple applications depending on the reduction in cache misses that each application is likely to obtain for a given amount of cache resources
  - It is implemented for N cores and for different replacement policies like LRU, SRRIP, and DRRIP.
- **CUCU - Compiler U Can Understand** *Feb 2022 - May 2022*
  Programming Paradigms and Pragmatics **Github**
  - It is a compiler for a simple language that reports any syntactical and lexical errors in a sample code.
  - It is a small subset of C language which encounters program source files consisting of variable declarations, function definitions and function declaration.
  - It is implemented using BNF, lex and yacc.
- **Smart Car Parking System** *Oct 2021 - Dec 2021*
  Digital Logic and Design **Github**
  - The main objective of this project is to propose a smart car parking system using Verilog code.
  - It deals with different aspects like vehicle management including parking and security and calculate the fare of a car for the time it was parked in.
  - It is implemented using a Finite State Machine.
- **Mini-Projects** *Jan 2021 - May 2022*
  Data Structure and Algorithms **Github**
  - **Network Flow** - This project computes a maximum possible flow for a network flow with a source and sink and is implemented using Graphs and BFS.
  - **LRU Cache** - Least Recently Used is a common caching strategy. According to this technique, we evict elements from the cache to make room for new elements when the cache is full, meaning it discards the least recently used items first. It is implemented using Queue and Hashmaps.
  - **Hangman** - It was a simple game project in Perl language in which we have to guess a word in limited attempts.
  - **Tic-Tac-Toe** - It was a small gaming project implemented in Java.

Technical Skills

- **Programming Languages**: C,C++, Verilog HDL, Perl, Java, ,HTML,CSS,Javascript,Lex and Yacc
- **Other Skills**: MATLAB, Latex, Git, Github, Problem Solving ,Photo and Video Editing, Competitive Programming and Blockchain Development

Key courses taken

- **Computer Science**: Data Structure and Algorithms, Programming Paradigms and Pragmatics, Computer Architecture, Digital Logic and Design, Introduction to Computing and Data Structures
- **Maths**: Discrete Mathematical Structures, Advanced Calculus, Linear Algebra, Differential Equations, Probability and Statistics
- **Others**: Signals and Systems, Tinkering Lab, Basic Electronics, Economics, Introduction to Electrical Engineering

Miscellaneous

- **HScTSS scholar**, It a State Science Talent Search Scheme for students studying in class 10th. *2018*
- **Qualified JEE Mains 2020**,Among top 1 % *2020*
- **Qualified JEE Advanced 2020**, Among top 1 % *2020*
- **4-star coder on codechef**, ***Codechef***