Anshik Sahu

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"Be the change that you want to see in the world."

About Me

I am a motivated and enthusiastic individual with a strong interest in software engineering and machine learning, fascinated by how these can be employed to solve real-world problems. At present, I am in my second year of studying for a bachelor's degree in Computer Science and Engineering at the Indian Institute of Technology, Delhi.

Education

Indian Institu of Technology, Delhi — *Nov 2021 - Current*

B.Tech in Computer Science and Engineering — *CGPA: 8.55*

Mahatma Hansraj Modern School — *2019 - 2021*

Junior College(Class 11th and 12th CBSE board) — *Marks: 95.6%*

Christ The King College — *2017 - 2019*

High School(Class 9th and 10th ICSE board) — *Marks: 93.4%*

Scholastic Achivements

Top 7%, IITD Merit Award, Semester 1 — *2021-2022*

All India Rank 698, among 140000 students, Joint Entrance Exam Advanced — *2021*

99.83 Percentile, among 1 million students, Joint Entrance Exam Mains — *2021*

Scholar, among 1 million students, National Talent Search Examination — *2018-2019*

All India Rank 364, among 50000 students, KVPY (SX stream) — *2020*

State Topper, IOQC (XII Level) — *2020-2021*

Projects

Temperature Predictor for 3D HBM

Prof. Preeti Ranjan Panda

SURA 2023 — **Ongoing*

- Working on a machine learning based temperature predictor for 3D memory to enable efficient DTM and task mapping
- Implementing deep learning to achive high accuracy with managable overhead
- **Technical Skills:** Languages: Python, C/C++,Bash, Simulators: Hotspot, Sniper, McPAT, CoMeT, Operating Systems, Computer Architecture, Machine Learning, Algorithms

Movie recommendation website

Prof. Abhilash Jindal

- The website might not be accessible due to server restrictions. The documentation and code can be accessed here
- Created a recommendation website using HTML/CSS and Flask
- Implemented a machine learning algorithm for recommendations and penalisation
- **Technical Skills:** Python, Flask, MySQL, HTML, CSS, API, Machine learning, Pandas

Cache Simulator

Prof. Rijurekha Sen

- Created a n-leveled cache hierarchy simulator to simulate 2 level cache structures with varying parameters
- Used these results to compare and analyse various trends in the effectiveness and miss rate of the hierarchy with changes in sizes and associativity of caches
- **Technical Skills:** C++, Caches, Computer Architecture, Simulators

Markdown to HTML parser

Prof. S. Arun Kumar

- Implemented a LL1 parser in SML to convert markdown to HTML for building basic websites.
- This included lists(ordered and un ordered), tables, tags, headings, indentation, etc
- **Technical Skills:** SML, parsers, HTML

VHDL Stopwatch

Prof. Preeti Ranjan Panda

- Designing a component to display 4 hexadecimal numbers on a seven segment display
- Designing a component to keep track of time
- Adding control switches to start,pause,contiunue and reset the stopwatch
- **Technical Skills:** VHDL, Circut Analysis and Design

Implementing the search nearby feature of Google maps

Prof. Ashish Chiplukar

- Creating a static data structure for a set of given points in a 2-dimensional plane with a tree structure to support faster query computation
- Creating an algorithm which returns a list of points within a given distance of a point
- Analysing the time and space complexity of the algorithm and optimising for faster query processing
- **Technical Skills:** Python, Algorithmic Analysis,Data Structures

Python Intrepreter

Prof. Sanjiva Prasad

- Creating an algorithm to convert a code into a list of executable commands
- Creating an algorithm to interpret and execute custom commands through python
- Using python list analogous to computer memory to mimic execution of machine language instructions
- **Technical Skills:** Python , Interpreter and Compiler

Reddit Video bot

Individual Project

- Cloned a repository from Github which takes posts from reddit and uses text to speech to create a video and modified it
- Used shell scripting to automate the video creation and editing in large numbers
- **Technical Skills:** Python, moviepy, Shell scripting, API, Github

Relevant Courses

Indian Institute of Technology, Delhi

- **COL106:** Data Structures and Algorithms
- **COL202:** Discrete Mathematical Structures
- **MTL106:** Probablity and Stochastic process
- **MTL100:** Linear Algebra and Differential Equations
- **COL216:** Computer Architecture
- **MTL102:** Differential Equations
- **COL215:** Digital Logic and Circut Design
- **COL100:** Introduction to Computer Science
- **MTL101:** Calculus
- **ELL101:** Introduction to Electrical Engineering
- **COP290:** Design Practices
- **ELL205:** Signals and Systems

Skills

Programming: , Python , C/C++, Java, HTML, CSS, JavaScript, VHDL, SML, Prolog, Assembly
Miscellaneus: , Shell (Bash/Zsh), LaTeX (Overleaf), Microsoft Office, Git,AutoCad

Extracurricular Activities

Adventure Club

IIT Delhi

Event Manager and Publicity Representative

VIDYA Teaching Project

National Service Scheme

Volunteer

Academic Mentorship

IIT Delhi

APL100: Applied Mechanics