

Kartikeya Swarup Sharma

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EDUCATION

Graphic Era Hill University

B.Tech in Computer Science and Engineering – CGPA – 7.05 /10

Sep 2022 - present

Dehradun, Uttarakhand

PROJECTS

Mini Compiler – Custom language compiler – Built using C, Flex and Bison

May 2025

- Built a simplified C-like compiler using **Flex** for lexical analysis and **Bison** for syntax parsing.
- Lightweight compiler for a simplified programming language, featuring lexical analysis, syntax parsing, and semantic validation.
- Developed tokenization, grammar analysis, and intermediate code generation modules to translate source code into executable instructions.
- Enabled parsing of variable declarations, control structures, and expressions with error handling and syntax tree output.

Personal Portfolio Website – React.js, TailwindCSS, Vercel

Feb 2025

- Designed and developed a fully responsive portfolio using **React**, and **Tailwind CSS** to showcase projects, skills, experience.
- Implemented dynamic UI features including **dark/light mode** toggle, animated transitions, and interactive project cards.
- Deployed via **Vercel** with automatic CI/CD integration, enabling fast performance, zero-downtime updates, and global CDN distribution.

Password Generator – React.js

July 2024

- Created a clean and interactive password generator using **React**, featuring adjustable password length and options to include numbers and symbols.
- Implemented robust logic to assemble character sets and generate secure random passwords, with instant display and copy-to-clipboard functionality.

File Compression Application – Java

April 2024

- Developed a file compression tool using the **Huffman coding algorithm** to reduce file size based on character frequency.
- Achieved efficient data compression while preserving data integrity and structure.

Face Recognition Attendance System - Python, OpenCV, Firebase

October 2023

- Developed a real-time face recognition system to automate attendance using live webcam input.
- Implemented face detection from webcam feed and matched against pre-encoded images to identify individuals.
- Utilized **OpenCV** and **NumPy** for face detection and integrated **Firebase** to store attendance records securely in the cloud.
- Logged recognized faces with timestamps and uploaded attendance records to Firebase for cloud-based access and scalability.

TECHNICAL SKILLS

Languages: C/C++, Java, Python, JavaScript, Rust

Tech Stack: Html, Css, React.js, Next.js

Databases: SQL, OracleDB, MongoDB

Core Computer Science: Data Structures and Algorithms, Object Oriented Programming, Operating Systems & Computer Networks

CERTIFICATIONS

Affective Computing - [NPTEL](#)

Introduction to Cyber Security - [Swayam](#)

Google Cloud Computing Foundations - [NPTEL](#)