

# KARTHIKEY SAXENA

## ACADEMIC PROFILE

Degree/Certificate	Institution	Percentage/CGPA	Year
B-Tech	IIT BHU Varanasi	9.19	2022
CBSE (XII)	St. Anthony Sr. Sec. School, Udaipur	94.60	2018
CBSE (X)	St. Gregorios Sr. Sec. School, Udaipur	95.00	2016

## SKILLS

**LANGUAGES:** C/C++, JavaScript

**TECHNICAL:** Data Structures and Algorithms, OOPS, and OS

**TECHNOLOGIES:** Nodejs, Reactjs, HTML, CSS and Visual Studio

**DATABASE:** SQL, MongoDB

**RELEVANT PROFILES:** [LinkedIn](#), [Github](#), [Portfolio](#), [Codeforces](#)

**AREAS OF INTEREST:** Competitive Programming, Web Development

## PROJECTS

### Real Time Terrain Rendering Using Data Structures and Algorithms

JAN'20 - MAR'20

*Completed under the guidance of Prof. Rajeev Srivastav, (HOD - Department of CSE, IIT BHU Varanasi)*

- Used **C++** and Graphics Libraries like **OpenGL**, **GLUT**, and **SFML** (Simple Fast Multimedia Library).
- Implemented two rendering methods - **Delaunay Triangulation** and **Real-time Optimally Adapting Meshes (ROAM) Algorithm** and also optimized their implementation.
- Terrain is processed on the basis of required **level of detail** by handling large datasets (coordinates).
- The Terrain generated by plotting image data based on these coordinates, like in the **3D video games**.

### Game Development with SFML

JUNE 2020

- Developed a software application on Visual Studio comprising of single and multiplayer games along with a menu page using **C++** and **SFML** (Simple Fast Multimedia Library) as a graphics library.
- Single-player games include a **snake-food game** and a **ball-brick game**.
- Multiplayer games include **Connect-4** and **Tic-Tac-Toe** game that can be played between 2 players.

### ToDo Web Application using Nodejs

OCT'20

- Developed a ToDo Web App using **HTML**, **CSS**, and **Javascript** to design the frontend of the app
- The backend was built using **Nodejs** and **Expressjs** with **MongoDB** database.
- Users first authenticate themselves and then, they can simply add and delete notes in the app.
- Used **Passportjs** for user authentication and **Heroku** for deploying the app. [live version](#), [GitHub](#)

### Social Media Web App using MERN stack

DEC'20 - present

- Built a social media web application using **MERN stack** where users can register and add posts, edit, delete their posts, and also react to other user's posts.
- The front end was built using **Reactjs**.
- The backend was built using **Nodejs** with **Expressjs** and **MongoDB** database.
- The app is deployed on **Heroku**. [live version](#), [GitHub](#)

## Portfolio

- Built a portfolio website using **HTML**, **CSS/Bootstrap**, and **Reactjs**. [live version](#), [GitHub](#)

## CERTIFIED COURSES

- Data Structures and Algorithms in C/C++ by Abdul Bari on Udemy. [Certificate](#)
- Web Development Bootcamp by Angela Yu on Udemy. [Certificate](#)

## POSITION OF RESPONSIBILITY

- Worked as Marketing Coordinator in Technex'19 - the Annual Technical Fest of IIT BHU Varanasi.
- Worked as Marketing Executive in Google Startup Weekend 2020.

## HONOURS AND ACHIEVEMENTS

- Qualified KVPY 2017 Stage I.
- Achieved Expert rating at Codeforces. [Link to Handle](#)
- Secured AIR 27 in NSTSE (National Science Talent Search Exam) 2017.

## EXTRA-CURRICULAR ACTIVITIES

- Member at E - Cell, IIT BHU Varanasi.
- Participated in Ninja Hire, an online coding event by Coding Ninjas.

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