

Sudip Kumar Mandal

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EDUCATION

Indian Institute of Technology Dharwad	Dharwad, Karnataka
<ul style="list-style-type: none">M.Tech in CSE, CGPA: 8.75/10 (tentative)<ul style="list-style-type: none">Relevant courses: Advanced Software Development Laboratory, Advanced Data Structures and Algorithms, Blockchains	2026
Lovely Professional University	Jalandhar, Punjab
<ul style="list-style-type: none">B.Tech in CSE, CGPA: 8.99/10	2024
St. Xavier's High School	Bankura, West Bengal
<ul style="list-style-type: none">12th, Percentage: 92.20%10th, Percentage: 89.17%	2020 2018

PROJECTS

Smart Attendance Management System	Nov 2024
<ul style="list-style-type: none">Developed a full-stack Django/MySQL REST API-driven platform with barcode scanning (laptop/mobile) and manual fallback for real-time attendance; documented and validated endpoints using Swagger and unit tests.Implemented secure role-based access control (RBAC) for students, teachers, TAs, and admins, each with custom dashboards for attendance marking, reporting, and data management.Designed a normalized ER database schema to ensure data integrity across students, courses, and attendance records.Prototyped UI in Figma and implemented the frontend in HTML, CSS, and JavaScript; managed code collaboration with Git/GitHub	
Smart Home System using Firebase	Apr 2024
<ul style="list-style-type: none">Built a smart home automation system with voice control, remote access, and real-time monitoring using Firebase (Authentication, Realtime Database, Hosting).Programmed ESP32 to interface with sensors (DHT11, IR modules) for environment monitoring and people-count-based automatic lighting.Enabled bidirectional communication between ESP32 and a mobile web app via Firebase for real-time sync of sensor data and device state.Developed a mobile web dashboard (hosted on Firebase) to display temperature/humidity graphs and control lights remotely.	
3D Car Racing Game in Unity	Mar 2024
<ul style="list-style-type: none">Developed a time-based single-player racing game in Unity with checkpoints, a damage system, and multi-scene flow (home, level, win/lose).Created immersive terrain with forests, villages, and a volcano using Unity Terrain, particle systems (smoke, fire, wind), and assets from the Unity Asset Store.Built custom UI with speed/damage indicators, 1st/3rd person toggleable cameras, and dynamic sound effects (engine, nitro, music) from Pixabay.Scripted game mechanics in C# (vehicle control, collisions, checkpoints, time/damage logic).Optimized performance via occlusion culling, batching, and terrain detail management.	

CERTIFICATES

Introduction to Git and GitHub, Coursera	Dec 2022
Introduction to the Internet of Things and Embedded Systems, Coursera	Oct 2022
Using Python to Interact with the Operating System, Coursera	July 2022
Frontend development, Board Infinity	July 2022
Crash Course on Python, Coursera	May 2022
C for Everyone: Programming Fundamentals, Coursera	Feb 2022

SKILLS

- Programming languages:** C, C++, Python
- Web:** HTML, CSS, JavaScript, Bootstrap, Markdown, Git, GitHub
- Linux:** Bash scripting, command line interface, Makefile
- Unity:** 3-D game development, animations, C# for Unity
- IoT:** Arduino programming, experience with development boards such as Arduino UNO, esp32, Raspberry Pi
- Soft skills:** problem solving, critical thinking, creativity