

# RISHABH SURI

Patiala, Punjab

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## Profile Summary

Electronics and Computer Engineering student skilled in C++, Python, and frontend development (HTML, CSS). Experienced in AI-integrated IoT systems and algorithm-based game projects. Currently expanding expertise in JavaScript, AI/ML, and full-stack development.

## Education

### Thapar Institute of Engineering Technology

Btech, Electronics and Computer Engineering ,9.28/10

August 2023 - Present

Patiala, Punjab

### Mount Carmel High School and Junior College

HSC , PCM 85.25/100

March 2022 – March 2023

Vasai, Maharashtra

## Projects

### JARVIS - VOICE-ACTIVATED VIRTUAL ASSISTANT | Python

December 2024

- Created a speech-enabled virtual assistant with integrated wake-word detection and AI-powered web automation.
- Enabled voice-controlled browsing for Google, YouTube, LinkedIn using Python libraries.
- Integrated text-to-speech (TTS) and speech recognition with 92 % detection accuracy.
- Built a responsive UI for desktop & mobile with dynamic content loading for news & events.

### LiverGuard AIoT | ESP32, AIML, Streamlit, Sensors

June 2025

- Developed a non-invasive IoT solution integrating 4 sensors with ESP32 for liver health monitoring.
- Designed and implemented data pipeline + ML models achieving 88% prediction accuracy from physiological data.
- Built a responsive Streamlit dashboard for personalized health insights and trend visualizations.
- Reduced latency by 30% via optimized serial data handling.

### Pac-Man AI with Procedural Map Generation | C++, SFML, Data Structures & Algorithms

April 2025

- Developed an advanced Pac-Man game featuring AI-driven ghost movement and dynamically generated mazes.
- Engineered BFS/DFS pathfinding algorithms to simulate intelligent ghost pursuit, improving AI realism by 40%.
- Designed a procedural maze generator using recursive backtracking, ensuring unique gameplay every run.
- Implemented score persistence and power-up mechanics, increasing session duration by 25% in playtests.

## Relevant Coursework

Data Structures & Algorithms, Object-Oriented Programming (OOP), AI/ML, Computer Networks, Digital & Embedded Systems, Operating Systems, Signal Processing, Database Management Systems

## Technical Skills

**Languages:** Python, C, C++, Arduino, HTML/CSS, JavaScript, SQL, Arduino C

**IoT/Embedded:** Arduino IDE, Tinkercad, ESP32 SDK, Sensors (MAX30102, DHT, others)

**Technologies/Frameworks:** Git/GitHub, WordPress, Streamlit, Figma, Canva, Google Cloud Platform

**C++ Libraries & Tools:** SFML, Standard Template Library (STL), GCC, MinGW

**Python Libraries & Tools:** Pandas, numpy, matplotlib, scikit-learn, pyttsx3, gTTS, speech\_recognition

## Leadership / Extracurricular

### IETE

September 2024 – Present

*Mentor*

- \* Led the flagship event “Elementos”, managing a 10-member core team and 200+ participants.
- \* Represented the marketing team during first-year orientation.
- \* Organized Electro Sprint and Pathfinder at Saturnalia 2024 for 200+ participants, increasing engagement by 30% compared to previous year.