# Shoaib Junaid Khan

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## Education

**SRM University-AP** — Amaravati, Andhra Pradesh
*B.Tech. in Computer Science and Engineering | CGPA: 8.31/10* — *2025 – Present*

## Technical Skills

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|---|---|
| **Languages** | C, C++ |
| **Web Technologies** | HTML, CSS, JavaScript, React, Vite |
| **Tools** | Git, GitHub |
| **Core Concepts** | Data Structures & Algorithms, Object-Oriented Programming |

## Projects

### PulseTrust_ — Industrial Sensor Trust Platform — GitHub

*ESP32, FastAPI, Supabase, PostgreSQL, JavaScript*

- Built an industrial sensor-trust and machine-monitoring prototype using ESP32 telemetry, dual temperature sensors, and an MPU6050 IMU to collect real-time machine data.
- Implemented an Isolation Forest-based anomaly detection pipeline with redundant-sensor comparison and deterministic trust scoring to distinguish unreliable measurements from genuine machine events.
- Developed a FastAPI backend, Supabase telemetry store, and interactive dashboard for real-time trust analysis, evidence visualization, and machine-monitoring insights.

### AscentOptima — Elevator Optimization System — GitHub

*JavaScript, FastAPI, 3D Simulation*

- Developed a digital-twin elevator simulation platform using React, TypeScript, and Three.js to model a 7-floor campus, student movement, elevator kinematics, and peak-demand scenarios.
- Implemented a predictive dispatch engine that considers distance, elevator occupancy, direction, queue penalties, and timetable-based demand to optimize elevator allocation.
- Built an interactive analytics dashboard for real-time wait-time, congestion, fleet-utilization, and baseline-vs-optimized performance analysis, with scenario and failure-mode testing.

## Hackathons & Achievements

- **3rd Place — Google Solution Hunt Challenge by GDG:** Contributed to the development of AscentOptima, an elevator optimization and simulation system, with a focus on implementing core features and functionality.
- **Hackathon Experience:** Participated in multiple hackathons involving web development, IoT, cloud services, simulation, and applied software engineering.

## Relevant Coursework

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|---|---|---|
| Data Structures & Algorithms | Object-Oriented Programming | Discrete Mathematics |
| Programming in C | Programming in C++ | |

## Interests

Cybersecurity | Web Development | AI/ML | Cloud Computing | Software Engineering