Maninder Singh

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About Me

Computer Engineering student at the University of Bologna with a strong passion for software development and innovative technologies, supported by a solid background in electronics and digital systems.

In addition to my academic journey, my technical foundation comes from a technical high school diploma, which provided practical skills in programming, electronics, and circuit design. During university, I strengthened my programming skills with a focus on **software development**, gaining experience in designing, implementing, and managing applications.

I have strong foundations in software development and have worked with a wide range of programming languages, including **Java, C#, PHP for web development, as well as HTML, CSS, and JavaScript**. This combination of academic and practical skills allows me to effectively address both backend and frontend challenges.

Curious and highly motivated, I am eager to expand my expertise through hands-on projects and new challenges, aiming to grow as an IT professional and contribute to impactful technological solutions.

Education

- **Alma Mater Studiorum - University of Bologna** — Bologna, Italy
  Bachelor's Degree in Computer Engineering; GPA: 3.6 — *Sep 2022 – Oct 2025*

- **Istituto Tecnico Luigi Cerebotani** — Lonato Del Garda, Italy
  Technical Diploma in Computer Science and Telecommunications — *Sep 2017 – Jun 2022*

Experience

- **Aci Snc** — Lonato del Garda, Italy
  Technician / IT Support Specialist — *Apr 2021 – Jun 2021*
  - **Industrial machine maintenance**: Ensured efficiency, reliability, and reduced downtime through inspection, diagnostics, and repair of mechanical and electrical systems.
  - **Machine configuration**: Installed, calibrated, and optimized industrial machinery to ensure proper functionality and compliance with production requirements.

- **Treccani Sistemi SRL** — Lonato del Garda, Italy
  Technician / IT Support Specialist — *Mar 2022 – May 2022*
  - **KNX ETS**: Configured and programmed building automation systems using KNX ETS for intelligent lighting, HVAC, and energy management.
  - **Automation systems**: Programmed and configured control systems and components according to customer requirements.
  - **Firmware maintenance**: Updated and managed firmware for embedded and industrial systems using C, C++, and C#.

Projects

- **Full-Stack Development of Privacy Policy Analyzer**:
  - **Frontend**: Desktop application in JavaFX with a modern and intuitive interface (using JMetro library).
  - **Backend**: RESTful API in Spring Boot 3 to process, normalize, and store policy analysis results (using JWT, Spring Data JPA).
  - **Database**: PostgreSQL with schema management via Flyway. Docker used for development and testing environment.
  - **Integration**: APIs integrated with the JavaFX frontend, JSON data ingestion, and security managed with Spring Security.

- **Implementation of SOScial in Flutter (Jul 2025 – Aug 2025)**:

- Developed a Flutter app for real-time reporting and visualization of urban events on a map.
- Managed report approval workflow through an admin interface.
- Integrated Firebase for authentication, role management, and data storage.

- **Theoretical Design of SOScial (May 2025 – Jun 2025)**:
  - Designed a system for reporting and disseminating urban information (traffic, accidents, relevant events).
  - Users register and submit reports with mandatory photo evidence.
  - Validation process: reports are reviewed by an administrator before publication.
  - Verified events are displayed on a real-time updated map and removed once resolved.
  - Ensures transparency and timeliness, actively involving citizens in urban information management.

- **Database Modeling Project**:
  - Designed an ER diagram to represent users, reports, events, and categories of the SOScial platform.
  - Ensured normalization and data scalability.
  - Tools: MySQL, DBDiagram, relational modeling.