Tanmay Singh

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PROFILE

- Computer Science student skilled with a strong foundation in data structures, algorithms, and object-oriented programming (OOP). Passionate about building scalable applications, contributing to open-source projects, and leveraging technology for social good.

- **Portfolio:** tanmay-portfolio-flax.vercel.app — A showcase of my projects, skills, and accomplishments.

EDUCATION

SRM Institute of Science and Technology (Merit Scholarship)   **2023 - 2027**
*B.Tech - Computer Science and Engineering - **CGPA** - **9.75***   *Chennai, Tamil Nadu*

TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript, SQL, C
Frameworks/Libraries: React.js, Next.js, Express.js, Node.js, HTML , Angular 7.0, Git-SVN Flask, scikit-learn, TensorFlow, RESTful APIs
Databases: MongoDB, MySQL, Mongoose, Postgress
Tools/Platforms: Git, GitHub, VS Code, PyCharm, IntelliJ, Render
Concepts: Data Structures, Algorithms, OOP, Agile Development, Software Testing, Search Engine Optimization

RELEVANT COURSEWORK

- Data Structures and Algorithms, Object-Oriented Programming, Database Management Systems, Operating Systems, Software Engineering and Agile Development, Machine Learning (optional)

PROJECTS

AES/RSA Encryption Chat Simulation | Python, Tkinter, AES, RSA, HMAC   **February 2025**

- Developed a secure chat simulation using AES for fast symmetric encryption and RSA for key exchange, mimicking end-to-end encryption in real-world messaging platforms.
- Integrated HMAC for message integrity verification and a Tkinter-based interface that allows switching between User A and User B for encrypted and decrypted chat views.

Human Blind Detection Glove | Arduino, Ultrasonic Sensors, Embedded C   **December 2024**

- Built an Arduino-based smart glove for visually impaired individuals, utilizing four ultrasonic sensors to detect obstacles within four distinct range levels.
- Integrated a multi-level alarm system that beeps with varying intensities based on proximity, expanding navigation and safety.

Food Ordering (MERN) Web Application | Node.js, MongoDB, Express.js, React   **March 2025**

- Deployed a full-stack food delivery application enabling users to browse menu items, add to cart, and place orders seamlessly.
- Consumed RESTful APIs using Express.js to manage user authentication, menu items, and order processing, reducing API response time by 20%.

Air-Traffic Flask Application | Flask (Python), scikit-learn, NumPy, Matplotlib   **January 2025**

- A Flask-based web application that simulates air traffic detection, accurately identifying the closest pair of aircraft with 90% precision using logistic regression.

Movie-Card | React, JavaScript, HTML/CSS   **November 2024**

- Designed intuitive UI components with React hooks and conditional rendering to enhance usability and boost user engagement by 20%.

INTERNSHIPS

Machine Learning Intern   **March 2025 - May 2025**
AWS ACADEMY   *Chennai*

- Improved and optimized machine learning models using Python, scikit-learn, and pandas, increasing prediction accuracy by 12% through effective feature engineering and tuning.

Web Development Intern   **March 2025 - April 2025**
Value of Codes   *Chennai*

- Built and maintained web applications using React, Node.js, and MongoDB, following RESTful API principles, resulting in a 15% increase in user engagement and 20% faster page load times.

SOFT SKILLS

Strong analytical and problem-solving abilities.

Excellent communication and teamwork skills.

Adaptable and quick to learn new technologies.

Leadership and team coordination experience.

CERTIFICATIONS

AWS Academy - Machine learning Intern

Oracle - Cloud Application Foundation

AWS Machine Learning Foundations - AWS

AWS Cloud Certification - AWS

Mastering C++ - Coursera

Cloud Computing - Skill-shift

Digital-Image-Processing - MATLAB

COMPETITIVE PROGRAMMING & HACKATHONS

- **1st Place – DSA Coding Contest (Parenthesis Event)**
- **Top 10 – DAY ZERO National Level Hackathon**

HOBBIES

- Taught basic C++/Data structures to students in offline workshops.
- Member of the SRM Quantum Club (2023–2025).
- Class Representative for batch 2024.
- Committed to daily reading books for personal development.
- Chess enthusiast with a 1100 FIDE/elo rating on Chess.com.