

# Manmeet Singh

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## Education

<b>Vellore Institute of Technology, Chennai</b> B.Tech in Computer Science; CGPA: 7.67	June 2021 – August 2025
<b>City International School, Lucknow</b> Class XII Percentage: 77.2	June 2020 – August 2021
<b>The Millennium School, Lucknow</b> Class X Percentage: 77.5	June 2018 – August 2019

## Skills Summary

**Languages:** Python, C, C++, Java, SQL

**Framework:** Django, Flask

**Soft Skills:** People Management, Communication,

## Achievements

### MathCrypt Secure Algorithm – Research Paper Published

[Link](#)

- Developed a symmetric encryption-decryption algorithm leveraging numerical methods for enhanced cryptographic security.
- Implemented Diffie-Hellman key exchange to ensure secure communication over untrusted channels.
- Applied numerical root-finding techniques (Bisection, Newton-Raphson, Secant) to create one-way functions for encryption.
- Designed a robust encryption framework integrating mathematical approaches with cryptographic principles for secure data transmission.

## Projects

### Password Less Authentication Software

[Link](#)

- Developed an innovative Password-Less Authentication Software using Python's Tkinter, establishing a user-friendly interface and secure login procedures without traditional passwords.
- Integrated MySQL and Twilio to support a robust OTP authentication system, ensuring secure and reliable user access control.
- Advanced security measures by incorporating facial recognition technology, which verifies identities against stored data in real-time, significantly reducing unauthorized access risks.
- Tools Used: Python (Tkinter), MySQL, Twilio API

### GestureSpeak AI

[Link](#)

- Developed a real-time gesture-based drawing application that enables users to draw in the air using a webcam and a colored marker, leveraging OpenCV and image processing techniques.
- Designed a user-friendly interface with gesture-based commands for selecting colors, erasing, and saving drawings.
- Integrated AI response generation using NLP models like GPT to convert detected sign language gestures into text and audio output via TTS technology.
- Tools Used: Python, OpenCV

## Certification

### AWS Academy Cloud Foundations

[Link](#)

- Gained foundational knowledge of AWS Cloud services, architecture, and core concepts.
- Demonstrated understanding of cloud infrastructure, including computing, storage, networking, and security.
- Acquired practical skills in cloud deployment, management, and best practices for scalability and reliability.
- Proficient in navigating AWS Management Console and using AWS services such as EC2, S3, RDS, and IAM.