

# KARAN PANWAR

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## Professional Summary

Data Scientist and AI Engineer with expertise in machine learning, computer vision, and full-stack development. Skilled in delivering business-oriented AI solutions, optimising processes, and creating scalable applications. Currently pursuing an MSc in Computer Science, with hands-on experience in developing end-to-end AI systems and integrating them into real-world workflows. Seeking an internship or full-time opportunity to contribute to innovative corporate projects.

## Key Skills

**ML & AI:** TensorFlow, PyTorch, Keras, Scikit-learn, OpenCV, NLP, LSTM, CNN, GANs

**Data Science:** Pandas, NumPy, Matplotlib, Power BI, ETL Pipelines, Statistical Modeling

**Web Development:** Node.js, Python (Django, Flask), React.js, Next.js, TypeScript, REST APIs

**Databases:** MySQL, PostgreSQL, MongoDB

**Tools & Platforms:** Docker, Git & GitHub, Jupyter

## Professional Experience

### Research Assistant – Advanced Machine Learning

*Jan 2025 – May 2025*

*Anglia Ruskin University, Cambridge, UK*

- Researched and implemented Quantum Neural Networks for image recognition, demonstrating improvements over traditional CNNs.
- Designed imaging models to support strategic decision-making.
- Automated extraction of insights from large text datasets using semantic processing algorithms.

## Selected Projects

### Digital Health & Wellbeing Agent – TypeScript, Node.js, NLP, REST APIs

- Developed an AI-powered recommendation system delivering personalised health and wellbeing advice.
- Built a reliable backend infrastructure to support seamless multi-user interaction.

### Stock Market Prediction Engine – LSTM, Python, Time Series

- Designed and implemented an LSTM model to forecast financial market movements.
- Delivered an interactive dashboard for real-time monitoring and investment insights.

### Sign Language Translator – Python, Django, Deep Learning

- Created a real-time sign language translation application to enhance accessibility.
- Integrated speech-to-sign and text-to-sign conversion into a web platform.

### Emotion-Based Music Recommender – CNN, Deep Learning, Computer Vision, Spotify API

- Created a facial emotion recognition model integrated with Spotify for real-time playlist suggestions.
- Designed to enhance personalised entertainment experiences.

### Eye-Tracking Cursor Control – Computer Vision, Python, OpenCV

- Developed a hands-free computer control system using gaze tracking.
- Implemented calibration methods for improved accuracy and usability.

### AI Image Cartoonizer – Python, OpenCV, GANs

- Built a GAN-based model to transform real images into stylised cartoon artwork.
- Optimised the process for smooth, real-time performance.

## Education

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### **MSc in Computer Science**

*Sep 2024 – Oct 2025 (Expected)*

*Anglia Ruskin University, Cambridge, UK*

Modules: Machine Learning in Finance, ML for Imaging, Semantic Data Technologies, Advanced Web Solutions, Cybersecurity & AI Case Studies.

### **BSc in Computer Applications – First Class**

*May 2021 – May 2024*

*St. Xavier's College, Ahmedabad, India*

Modules: Python for Big Data, Database Management Systems, Data Structures, OOP, Statistical Computing.

## Certifications

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Python for Data Science (IBM) • Data Analytics & Visualization (Accenture) • Software Engineering (JPMorgan) • Generative AI (BCG) • Cloud Practitioner (AWS) • Generative AI (TATA) • AI Fundamentals (Ford) • Data Analytics (Quantium) • Cybersecurity (British Airways)