RACHIT SINGHAL

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# PROFESSIONAL SUMMARY

MSc Artificial Intelligence graduate from the University of Manchester with hands-on experience in machine learning, reinforcement learning, and data engineering. Skilled in Python and modern ML frameworks, with a proven ability to design and deploy AI solutions that improve efficiency and accuracy. Experienced in applying advanced methods to real-world problems in biomedical text mining, financial analytics, and education technology. Strong collaborator who bridges technical depth with clear communication, making complex insights understandable and actionable for diverse stakeholders.

# AREAS OF EXPERTISE

**Technical Skills:** Machine Learning, Generative AI, NLP, Computer Vision, Deep Learning, AI Strategy, Software Engineering, Data Science, Data Analysis, statistics

**Cloud Platforms:** AWS, Microsoft Azure, Google Cloud

**Languages & Frameworks:** Python, PyTorch, SQL, java, JavaScript, Git, Docker

# PROFESSIONAL EXPERIENCE

## System Engineer

*Infosys Limited* 08/2022 – 07/2024

* Developed data-driven solutions that streamlined workflows and improved reporting efficiency, reducing report generation time by 30%.
* Designed and maintained interactive dashboards using Power BI and Python, improving data visibility and reducing manual reporting effort by 50%.
* Contributed to the integration of analytics and machine learning models, leading to a 25% improvement in data accuracy and a 20% reduction in processing time.

**AI/Ml Intern** 02/2022 – 03/2022

*Magic Edtech*

* Applied machine learning techniques to analyze large datasets and build predictive models for business insights.
* Collaborated with teams to deliver data insights that enabled a 10% increase in student engagement based on performance predictions.

# EDUCATION

## The University of Manchester – Manchester, UK Sept 2024 – Present

MSc in Advanced Computer Science (Artificial Intelligence); Expecting Distinction

* **Dissertation Project**: Designed an SCDCC-based framework for the Zeisel mouse brain cortex dataset and benchmarked across PBMC, mouse bladder, and worm neuron datasets, demonstrating robust and generalizable clustering with minimal biological priors.

## MSIT– New Delhi, India 2018-2022

B.Tech. in Information Technology; First Division (CGPA: 8.3/10)

**PROJECTS**

*Projects*

* **ReNewTrade:** Built a blockchain-based energy trading prototype using Gemini AI agents, enabling peer-to-business exchange with dynamic pricing and carbon credit incentives. Secured finalist recognition at a sustainability-focused AI hackathon.
* **Relation Extraction (NLP):** Designed a relation extraction pipeline using BERT embeddings and benchmarked XGBoost vs. GCN models on the re-DOCRED dataset, achieving competitive F1 scores and highlighting model trade-offs for long-form text classification
* **Object Recognition:** Compared HOG/SIFT + SVM with CNNs on CIFAR-10, demonstrating 40% improvement in accuracy using deep learning. Highlighted CNN advantages for low-latency vision systems in robotics and edge devices.