

Rafi Ahmed Patel

MSc AI | [Stanford University Online ML Certified](#)

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Skills

Core: Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Data Science

Languages & Libraries: Python, Java, PyTorch, TensorFlow, Scikit-learn, Keras, OpenCV, AWS (EC2, Lambda, SQS, S3, etc.), Flask, Transformers

Techniques & Models: Convolutional Neural Networks (CNNs), Generative Adversarial Networks (GANs), Transformers (GPT, BERT), Random Forest, k-Nearest Neighbors (KNN), Long Short-Term Memory Networks (LSTMs), Super-Resolution GAN (SRGAN), Reinforcement Learning (RL), OpenAI Gym

Education

City, University of London	MSc Artificial Intelligence	2023-2024
<ul style="list-style-type: none">Selected for a machine learning internship focused on lung cancer research.Key modules: Deep Learning for Sequence Analysis, Deep Learning for Image Analysis, Reinforcement Learning, Computational Cognitive Systems, Agents and Multi-Agent Systems, Artificial Intelligence Ethics.Grade achieved: 68.5 (Merit)		
University of Mumbai	BSc Information Technology	2019-2021
<ul style="list-style-type: none">Grade achieved: 8.5/10 CGPA		

Work Experience

City, University of London, London, UK	AI/ML Research Intern	Jul-Oct 2024
<ul style="list-style-type: none">Integrated clinical and phylogenetic data to enhance machine learning models for predicting survival in lung cancer patients.Applied 5 different AI/ML model techniques to improve predictions of patient's survival time.Collaborated with a multidisciplinary team including Dr Robert Noble (Oxford University), Dr. Tillman Weyde (City, University of London) combining expertise in Mathematics and Computer Science to interpret results and refine models based on domain knowledge.Presented findings at weekly research meetings and subsequently submitted results.		

<u>Webomates</u> , Stamford, USA (remote)	AI Engineer	Jan-Sep 2023
<ul style="list-style-type: none">Deployed and monitored Machine Learning models on AWS Elastic Compute Cloud (EC2), with a strong emphasis on utilising the advanced functionalities and reliability of Linux systems.Implemented AWS SQS queue system for API applications, replacing Flask requests, and led team adoption and production redeployment, achieving 30% efficiency increase.Developed multi-modal ML model for web page feature change detection using HTML, logs, and images.Implemented a hybrid model combining XGBoost for HTML data, CNN for image data, and Random Forest for final feature detection, improving overall accuracy by 50%.Designed and built a Flask application leveraging GPT-4 to generate and enhance test cases for TestOps.Deployed several NLP and computer vision models, now actively running in production.Authored and published AI-related articles on the company's official website.Primarily worked with Linux, OpenAI API, Flask, AWS, SQL, Jenkins, Kibana, NLP, Git, and Bitbucket		

<u>Webomates</u> , Stamford, USA (remote)	Artificial Intelligence Intern	Sep-Dec 2022
<ul style="list-style-type: none">Primarily engaged in building APIs, data collection, and exploratory data analysis (EDA).Gained experience with Amazon Web Services (AWS), including AWS Lambda, ECS, and CloudWatch.Developed multiple Python scripts to automatically generate Excel reports utilising AWS Lambda.		

<u>ResoluteAI</u> , Mumbai, India	Machine Learning Engineer Intern	Oct 2021-Jan 2022
<ul style="list-style-type: none">Developed a U-NET Neural Network to detect defects in fabric videos, handling video-to-frame conversion, image augmentation, and model training/testing with visualizations.Led a team of 4 interns in image annotation tasks, organising a webinar for instruction and guidance.Extracted regions of interest (ROI) and labeled objects using the Canny edge detection algorithm.		

Research

- Completed a thesis-based internship project on [predicting cancer patient survival times using clinical and genetic data, applying linear and non-linear regression methods](#), with a publication in progress.
- Implemented [Super Resolution Residual Network \(SRResNet\)](#) and [Super-Resolution Generative Adversarial Network \(SRGAN\)](#) to enhance image resolution, proposing new improvements to the models, achieving better performance on benchmarks. Also presented first baselines for the Fréchet Inception Distance (FID) following their work.
- Developed a chatbot using [Seq2Seq and Transformer architectures](#) with attention mechanisms for contextually relevant conversations, applicable in sectors like customer service and healthcare.
- Built a [Feed Forward Neural Network in NumPy and an LSTM-based Recurrent Neural Network in PyTorch](#) from scratch for temperature forecasting, exploring optimisation techniques and architectures.
- Implemented [Q-learning and Deep Q-Networks \(DQN\)](#) for a house-cleaning task and gaming environment, demonstrating the progression from basic reinforcement learning to advanced deep learning approaches.

Awards & Achievements

- **Invited to AIUK 2025 by [Harmony](#)**, hosted by **The Alan Turing Institute** — recognised for contributions to advancing AI in mental healthcare. Received a total monetary award of £1,500 in [recognition of this work](#). (**March 2025**)
- **[Winner of Harmony NLP Challenge \(DOXA AI Platform\)](#)**, developed a transformer-based algorithm that improved the alignment of psychology survey question similarity ratings with human psychologist assessments, **reducing the Harmony tool's mean absolute error (MAE) from 24 to 20.544**. This challenge was organised by Harmony in collaboration with researchers from University College London (UCL), Ulster University, Universidade Federal de Santa Maria, and Fast Data Science. (**January 2025**)
- **Selected for Machine Learning in Lung Cancer Research Internship** in collaboration with City, University of London (CS & Mathematics Department), using [UK Cancer Research](#), [TracerX](#) data.

Certifications

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| • AI Agents Course, HuggingFace | May 2025-Present |
| • Langchain for LLM Application Development, DeepLearning.ai | Aug 2023 |
| • Neural Networks and Deep Learning, DeepLearning.ai, Coursera | Oct 2022 |
| • Machine Learning by Andrew Ng, Stanford Online, Coursera | Jun 2022 |
| • Python Master Certification Course, Perfect E-Learning | Sep 2022 |
| • Python and ML for Data Science, Kaggle | Jan 2021 |

Additional Information

Languages: English, Urdu, Hindi, Marathi

Interests: Artificial Intelligence Enthusiast, Sports, Fitness