Rishabh Patel

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ABOUT ME

AI & IT professional with a background in AI, cybersecurity, and enterprise IT support. Experienced in leveraging Python, TensorFlow, Scikit-learn, OpenCV, and AIF360 for building and deploying ML solutions. Skilled in data visualization and analytics using Pandas, NumPy, and Matplotlib. Skilled in endpoint security, IAM, and compliance (GDPR/HIPAA) through healthcare IT roles, administering systems like Active Directory, SCCM, Intune, and Citrix Cloud. Recognized for reliable support, secure deployments, and delivering user centric technical solutions across diverse infrastructures.

WORK EXPERIENCE

Technical Services Analyst (Zone 1)   Oct 2025 — Jan 2026
HCA Healthcare   *London, UK*

- Delivered enterprise IT support across 15+ hospital sites, administering systems like Active Directory, SCCM, Intune, Jamf Pro, Citrix Cloud, and Cisco ISE to strengthen endpoint security and identity management.
- Deployed and configured 200+ clinical/administrative devices, streamlined imaging workflows, and resolved 95% of tickets within SLA, earning multiple recognitions for service excellence.

Patient Access Officer   Jul 2024 — Oct 2025
HCA Healthcare   *London, UK*

- Managed patient scheduling and registration for 1000+ monthly cases across adult and pediatric services, maintaining accurate records in Meditech/SharePoint with strict GDPR compliance; streamlined insurance workflows by coordinating with providers, quoting, invoicing, and payments, cutting claim turnaround by 15% and reducing outstanding invoices.
- Consistently delivered high patient satisfaction and supported clinical staff in care standards, earning 7 recognitions for accuracy and service excellence; certified in Basic Life Support (Adults & Pediatrics) and the NHS Care Certificate.

Technical Support Analyst   Oct 2018 — Oct 2021
The Baker's Nest   *Vadodara, Gujarat*

- Managed IT infrastructure (Windows Active Directory, MS Office Suite), delivering onsite technical support and hardware/software upgrades to ensure 99% uptime and extend device lifecycle.

Web Developer   Sep 2017 — Oct 2018
The Baker's Nest   *Vadodara, Gujarat*

- Designed and maintained WordPress/WooCommerce site with integrated payment processing and SEO, driving a 25% increase in online sales and ensuring accurate product cataloging.

.NET Developer (Internship)   May 2019 — May 2019
Sannibh Technologies   *Vadodara, Gujarat*

- Developed a booking system in .NET with SQL backend, optimizing database schema to improve query performance.

PROJECTS

CCTV Threat Detection - Real-Time Computer Vision Pipeline

- Built an end-to-end computer vision pipeline to analyze live CCTV video feeds, automatically detecting security threats like weapons and violence to enable rapid incident response.
- Trained and integrated a multi-model architecture combining YOLOv8, SlowFast and pre-trained I3D ResNet-50.
- Deployed full stack with FastAPI (backend), Streamlit (live stream and upload frontends), and Docker (containerization).
- Engineered a custom rule-based fusion layer to combine simultaneous multi-model inferences into a unified threat score.

Healthcare Triage Assistant - End-to-End ML Deployment

- Built an application for non-clinical hospital staff to predict patient triage levels from vitals, enabling better prioritization.
- Trained ML model on Synthetic Medical Triage Priority Dataset (Kaggle) using scikit-learn, pandas, seaborn, joblib.
- Deployed full stack with FastAPI (backend), Streamlit (frontend), Docker + Render (deployment).
- Integrated OpenRouter API for concise GenAI explanations of predictions; engineered prompts for token efficiency.

Detecting and Mitigating Algorithmic Bias in Face Recognition Algorithms: A Research Study

- **Research Aim**: Investigated techniques to detect and mitigate algorithmic bias in facial recognition by designing a gender classification model as a case study.
- **Methodology**: Designed and trained convolutional neural networks (CNNs) on multiple publicly available facial datasets. Conducted an extensive literature review to understand bias origins and fairness challenges within facial recognition.
- **Bias Mitigation**: Implemented the AI Fairness 360 (AIF360) toolkit using reweighing and adversarial de-biasing techniques. Quantitatively evaluated bias reduction using key fairness metrics (disparate impact, statistical parity difference, equal opportunity difference, average odds difference).
- **Results & Contributions**: Achieved a significant decrease in bias (e.g., disparate impact reduced from ~1.034 to ~1.000) while preserving high model accuracy. Addressed ethical, legal, and social implications inherent in deploying facial recognition technologies.

Automated Driving Robot Car Simulation using Unity
- Programmed a car using C# in Unity to drive automatically on a path with turns, blockades, slopes, and angular surfaces using sensors to detect surfaces and blocks while also auto-regulating car speed.

COVID-19 Simulation using Netlogo
- Created a COVID-19 simulation that simulates how the virus is spread, the effects of vaccination/antibodies, and more.
- The purpose was to study the effectiveness of various steps taken to prevent like lockdown, self isolation, and vaccination.

Controlling Operating System and Applications using Hand Motion Gestures
- Created a Python and OpenCV based system that controls applications and OS in a Linux environment using motion gestures from a laptop webcam based on a gesture recognition model trained using supervised machine learning.
- Application dependent gesture mapping to execute different commands with the use of PyautoGUI.
- Users can add application profiles, allowing them to customize the commands mapped to a gesture.

EDUCATION

University of Hertfordshire   Hatfield, UK
MSc - Artificial Intelligence and Robotics with Advanced Research, Distinction   *Oct 2021 — Oct 2023*

Sardar Vallabhbhai Patel Institute of Technology   Gujarat, India
BE - Computer Engineering, Distinction   *Sep 2016 — Aug 2020*

CERTIFICATIONS

Google Project Management Specialization, Coursera   Dec 2025
Google IT Support Specialization, Coursera   Oct 2025
Fundamentals of Deep Learning, Nvidia Deep Learning Institute, UK   Dec 2023
Pandas, Kaggle   Sep 2023
Introduction to Machine Learning, Kaggle   Aug 2022
Python, Kaggle   Jul 2023
AWS Machine Learning, Coursera   May 2020

SKILLS

- **Programming Languages**: Python, C/C++
- **Data Science & ML Tools**: TensorFlow, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, OpenCV, AIF360, Joblib
- **Concepts**: Machine Learning, Data Wrangling, Prompt Engineering, End-to-End ML Deployment
- **Web Technologies**: HTML, CSS, JavaScript, WordPress, cPanel, SEO, FastAPI, Streamlit
- **Version Control**: Git, GitHub, Bitbucket
- **Containerization**: Docker, Render (cloud deployment), Modular Containerization, Reproducibility
- **Scripting**: Linux Shell Scripting
- **Spoken Languages**: English, Hindi, Gujarati
- **Creative Media**: Video Editing, Graphic Design, Photo Editing
- **Interests & Activities**: Public Speaking (Toastmasters), Home Servers & Automation, OS/ROM Experiments, Formula Racing Enthusiast, Gaming, 3D Art