

# Mahaveersinh Chauhan

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## Objective

Results-driven AI/ML Developer with 4+ years of experience in designing, developing, and deploying cutting-edge machine learning solutions. Proven expertise in deep learning, NLP, computer vision, and large-scale data processing. Strong proficiency in Python, TensorFlow, PyTorch, and cloud-based ML services. Passionate about leveraging AI to drive business impact.

## Skills

- **Programming:** Python, TensorFlow, PyTorch, Scikit-learn, OpenCV, SQL/NoSQL, JavaScript, C++
- **Machine Learning:** Supervised & Unsupervised Learning, Deep Learning, NLP, Data Science, Generative AI
- **Big Data & Cloud:** AWS (SageMaker, Lambda, S3), Google Cloud AI, Spark, ETL Pipelines, Kafka
- **Development Tools:** Docker, Git, CI/CD, Jupyter Notebook, Databricks, REST API
- **Databases:** MySQL, PostgreSQL, MongoDB, Microsoft SQL Server
- **Frameworks & Libraries:** Transformers, FastAPI, Flask, Pandas, NumPy, Matplotlib, Plotly, ReactJS, LangChain, RAG
- **MLOps & Deployment:** Model Optimization, Model Monitoring, Flask/FastAPI Deployment, Grafana, Prometheus

## Experience

### ML/AI Research Student – Sinasam Inc.

May 2024 – August 2024

Toronto, Ontario, Canada

- Designed and deployed an advanced AI conversational system using LangChain with multiple autonomous AI agents - dynamic MongoDB data retrieval and RAG-based agent utilizing FAISS for semantic search and contextual understanding.
- Enabled intelligent, real-time responses by integrating vector-based retrieval, prompt engineering, and persistent chat memory, significantly enhancing the chatbot's accuracy and user engagement.

### AI/ML and IoT Developer – AZOCA Technologies LLP

September 2021 – April 2024

Gandhinagar, Gujarat, India

- Developing and implementing transformer architecture to design and deploy an empathetic mental health chatbot, utilizing natural language processing and machine learning for improved user experience and accessibility in mental health support.
- Developed a computer vision system (YOLOv5) for real-time currency detection, improving detection accuracy by 20%.
- Led a team in MLOps automation, integrating CI/CD pipelines, and AWS SageMaker for streamlined model deployment.
- Designed and implemented a machine learning algorithm for facial comparison, resulting in a 30% increase in accuracy and significantly enhancing overall system performance.
- Architected and implemented a high-performance backend using FastAPI with seamless database integration, ensuring low-latency API responses and scalable AI model deployments.

### AI Developer – CREAR Electronics PVT LTD

May 2020 – May 2021

Ahmedabad, Gujarat, India

- Integrated Alexa, Google Home, and Apple HomeKit in Smart Switches.
- Designed and implemented an end-to-end data pipeline leveraging AWS IoT, Lambda, and DynamoDB to efficiently collect, preprocess, and store data from IoT devices. This solution optimized data management processes, resulting in a 50% reduction in overhead while ensuring seamless data retrieval for application use.

## Projects

### Amazon Product Recommendation

- Developed and deployed a Collaborative Filtering-based product recommendation system using AWS S3, Lambda, SageMaker, API Gateway, Azure Databricks, and Snowflake for end-to-end data processing, model training, and deployment.
- Built a React.js frontend and FastAPI backend to deliver personalized recommendations through a scalable REST API integrated with the SageMaker inference endpoint.

### Toronto Transit Commission (TTC) Delayed Bus Analysis

- TTC is a public transport provider in Toronto, Canada, responsible for operating buses, street cars and subways throughout city. Project aims to analyze data of bus delayed and forecast future delays using time series analysis.

### AI Image Editor - Illustrix

- Application aims to build an AI Image Editor focusing on transforming images according to user requirements, including Image Super Resolutions, applying Basic Filters, Background Replacement and Blurring.

## Education

### Graduate Certification in Artificial Intelligence and Machine Learning

January 2023 – August 2024

Lambton College, Toronto, Canada

### Bachelor Degree In Information Technology (IT)

September 2016 – July 2020

LDRP Institute of Technology and Research, Gujarat, India

## Honors & Certifications

- **AWS Certified Developer - Associate** (AWS – Issued on June 2024)
- Published research paper named “Enhancement of vehicle Behavior System” in Volume-9-issue-1 in October 2019 in International Journal of Engineering and Advanced Technology (Scopus Journal).
- Achieved Dean's Honor List recognition.