

# ADITYA VERMA

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## Summary

As a technology strategy professional with a full-stack developer background, I bring experience translating industry KPIs into actionable insights. My expertise includes integrating frameworks, predictive modelling, data processing, and visualization. With a passion for keeping up with the latest trends in DNN research, I excel at translating business ideas into functional deliverables, with an aspiration to bring transformative impact to all stakeholders.

## Education

### S P Jain School of Global Management (Dubai – Australia)

Oct 2021 – Oct 2023

#### Masters of Artificial Intelligence — Minor in Digital Logistics (BPA/IOT).

- Research: A novel Triplex Decision based-approach for benchmarking Federated learning IoMT applications of intrusion detection systems under Dr. A.A.Zaidan (h-index: 85, i10 index: 267)
- Projects:
  - Agricultural yield prediction using LSTM and CNN models with a Gaussian Process applied on high resolution, rasterized 36 band-spectral images from MODIS Satellite to predict the crop yield output based on the farm size and environmental conditions achieving a yearly RMSE of ~5.55 and MAPE improvement of ~17% than USDA surveys.
  - Credit Card Fraud Analytics and Credit Risk Modelling with TNSE, ARIMA, time domain anomaly detection and development of PD, LGD and EAD models for predicting aggregate loss using hyperparameter-optimized Ensemble ML algorithms and custom DNNs.
  - Fashion E-commerce recommendation system with a Two-Tower Architecture for real-time Collaborative and Item based Filtering with support for images.

### Virginia Tech (Virginia – USA)

Aug 2017 – Dec 2018

#### Computational Modeling and Data Analytics

### AICTE (Rajasthan – India)

Aug 2014 – May 2017

#### Bachelor of Computer Application

## Professional Experience

### UPILOT

Remote

#### Engineering Program Manager AI / ML

April 2024 – Present

Engineering Program Manager specializing in AI/ML-driven CRM innovation, delivering scalable solutions across voice intelligence, NLP, and computer vision. Led development of a cross-platform meeting automation and summarization engine integrated with Zoom, Teams, and Meet, enhancing customer engagement tracking with 95%+ transcript accuracy and 80% time savings. Built LLM powered contextual summarization and email automation serving 10K+ users, and implemented biometric speaker ID systems processing 1K+ daily auth events. Engineered OCR and business card digitization workflows (95%+ accuracy), fully integrated into mobile apps and CRM pipelines. Scaled semantic search across 10M+ CRM records using ColBERT v2 and hybrid retrieval, improving relevance by 40%. Drove DevOps excellence with Docker microservices, CI/CD pipelines, and sub-second query performance on 1TB+ PostgreSQL data stores. Delivered measurable impact across automation, customer intelligence, and enterprise-grade reliability—core pillars of next-gen CRM systems.

### MUNICH RE

Mumbai, India

#### Data Analyst Intern- Non-Life Digital

Jul 2023 – Aug 2023

- Analysed insurance data to help efforts in mitigating and lowering risk exposure.
- Understood business functions including reinsurance and primary insurance from an Underwriting perspective.
- Automating the centralization and standardization of data sources for KPI visualization.

### MAHINDRA AND MAHINDRA (Group Technology Office)

Mumbai, India

#### Data Science Intern Trainee (Managerial)

Nov 2022 – Feb 2023

- Developed a Call Analytics pipeline to extract insights from raw audio and metadata from call centres using custom HuBERT, CNN and open-source models such as Whisper for suggesting cross-selling and business opportunities along with identifying Agent Performance. - Feature Stack included Speech Enhancement, Speaker Fingerprinting and Diarization, Gender and Emotional Tonality Detection, Multi-Lingual Transcription and Translation, NER Extraction, Sentiment Analysis and Contextual Summarizations.
- Liaising within the M&M Group companies to identify pain points and suggest business development opportunities.
- Prototyped a conversational bot layered to service dynamic API queries through LLMs finetuned on a custom knowledge base for Mahindra Real Estate Development (MLDL) to cater to prospective and residential clients.

## Freelancing Experience

- TTS pipeline using Vocoder GAN and RNN Models for expressive speech pattern imitation for Audio Books. (Fiver)
- Langchain assisted conversational and narrative generation through RLHF finetuned open-source LLMs. (Tranzita Systems)
- Employing LORA-optimized Diffusion and GAN models for VFX workflows including 3D avatar creation. (Tranzita Systems, Fiver)
- Deploying custom NFTs on the Ethereum network with a focus on secure smart contract development. (Blockstone)
- Computer Vision DNN pipeline for QA, authentication, and extraction tasks. (Tranzita Systems, Fiver)
- Inventory Management and Logistic Tracking with POS gateway. (Bathla Aluminium)

## Skills and Extracurricular

**Languages:** Proficient in C, C++, Python, Cuda, Mojo, Java, and Matlab; Experienced with R, HTML5, TypeScript **Frameworks & Libraries:** Well-versed in Svelte, Bun, React, JS, Rust; Familiar with Socket.io, Webpack, npm **AI/ML Libraries:** Proficient in TensorFlow, NumPy, Pandas, Matplotlib; MuJoCo, HuggingFace, Jupyter, Keras, PyTorch, SpaCy, BeautifulSoup, NLTK, Librosa, Asteroid **Audio Models:** Knowledgeable in WaveNet, Tacotron, DeepVoice, Whisper **Image Models:** Skilled with Diffusion Models, Mask R-CNN, U-Net; Confident in GANs (DCGAN, ESRCAN, pix2pix, CycleGAN, StyleGAN), NeRF, LORA YOLO (v4) **Text Models:** Familiar with ColBERT, Transformers, XLNet, T5 **Platforms, Dspy, RAG & Tools:** Adept in Docker, Kubernetes; Familiar with MLflow, Packer, Terraform **Cloud Solutions:** Experienced with TFX, AWS SageMaker, Azure ML, GCP AI Platform, Cloud AutoML, Nvidia Suite **Cross-Platform:** Competent with React Native **Mobile:** Familiar with Android Studio and Swift **Edge IOT AI:** Proficient in TensorFlow Lite, CircuitPython and PyTorch Mobile **Database Management:** Skilled with MongoDB, Snowflake, Firebase, PGvector PostgreSQL, Vector DBs (Weaviate, Pinecone, Qdrant, PLAID) **Visualization Tools:** Proficient in Tableau, Apache Superset, Power BI, ML/AI/Dev Ops, System Design

- DRDO affiliated DIAT certified Artificial Intelligence Professional (November 2020).
- Machine learning, Coding Elements, Delhi (December, 2019).
- Certification in C, C++ and Oracle Core JAVA from NIIT National Institute of Information Technology (2014-15).
- South East Asia Coordinator for Connecting Consciousness, a 1,00,000+ member global organization.
- Volunteered with Self Employed Women's Association (SEWA) for collaborative projects with PhD candidates from the University of Washington and the University of British Columbia.