NEELKUMAR MAHYAVANSHI

AI Engineer | Machine Learning Developer

Montreal, QC | neelmahyavanshi9@gmail.com | 514-550-9230
GitHub: https://github.com/NeelMahyavanshi | LinkedIn: https://www.linkedin.com/in/neel-mahyavanshi/

PROFESSIONAL SUMMARY

Motivated AI Engineer with hands-on experience in developing and deploying end-to-end machine learning applications. Proven track record of building production-ready ML models across diverse domains including healthcare analytics, financial risk modeling, natural language processing, and computer vision. Currently transitioning from technical support to AI engineering, bringing strong problem-solving skills and customer-centric approach. Demonstrated ability to transform business problems into AI solutions with 4+ deployed Streamlit applications. Proficient in Python, scikit-learn, deep learning frameworks, and LLM integration.

TECHNICAL SKILLS

- **Programming Languages:** Python, SQL
- **Machine Learning & AI:** Scikit-learn, TensorFlow, Keras, PyTorch, Supervised Learning, Deep Learning, Neural Networks, Feature Engineering, Model Evaluation, Hyperparameter Tuning
- **AI & LLM Tools:** LangChain, OpenAI API, Hugging Face Transformers, Retrieval Augmented Generation (RAG), Prompt Engineering
- **Data Science & Analytics:** Pandas, NumPy, Matplotlib, Seaborn, Data Preprocessing, Exploratory Data Analysis (EDA), Statistical Analysis
- **Computer Vision:** Convolutional Neural Networks (CNNs), Image Classification, Object Detection, Transfer Learning
- **Natural Language Processing:** Text Processing, Semantic Search, Embedding Models, Conversational AI, Chatbot Development
- **MLOps & Deployment:** Streamlit, Git/GitHub, Model Deployment, Web Application Development, API Integration
- **Business Tools:** SAP, Salesforce, TethrIT, MS Office 365 (Excel, Word, PowerPoint), SharePoint
- **Soft Skills:** Problem Solving, Critical Thinking, Technical Support, Cross-functional Collaboration, Customer Communication, Analytical Thinking

MACHINE LEARNING PROJECTS

ImmigrationGPT | AI-Powered Immigration Assistant

GitHub: https://github.com/NeelMahyavanshi/ImmigrationGPT | Live App https://immigrationgpt.streamlit.app/

- Developed an AI chatbot leveraging Large Language Models (LLMs) and Retrieval Augmented Generation (RAG) to provide accurate Canadian immigration guidance
- Implemented LangChain framework with OpenAI GPT models for natural language understanding and contextual response generation
- Engineered semantic search capabilities using embedding models to retrieve relevant immigration documentation
- Built end-to-end conversational AI system with context-aware responses for complex immigration queries
- Deployed production-ready application on Streamlit Cloud with intuitive user interface

Technologies: Python, LangChain, OpenAI API, Streamlit, NLP, RAG, Embeddings, Vector Databases

Car Damage Detection System | Computer Vision Application

GitHub: https://github.com/NeelMahyavanshi/CAR_DAMAGE_PREDICTION | Live App: https://car-damage-detections.streamlit.app/

- Built deep learning model using Convolutional Neural Networks (CNNs) for automated car damage classification into 6 distinct categories
- Implemented transfer learning techniques with pre-trained models (VGG16/ResNet) to achieve high classification accuracy
- Performed comprehensive image preprocessing including augmentation, normalization, and resizing for model optimization
- Achieved 85%+ accuracy in damage detection through hyperparameter tuning and model optimization
- Deployed interactive web application allowing real-time image upload and instant damage assessment

Technologies: Python, TensorFlow/Keras, CNNs, Computer Vision, Transfer Learning, Image Processing, Streamlit

Health Insurance Premium Predictor | Regression Model

GitHub: https://github.com/NeelMahyavanshi/ml-project-premium-prediction | Live App: https://health-insurance-premium-predictor-neelmahyavanshi.streamlit.app/

Developed end-to-end machine learning pipeline for predicting health insurance premiums based on individual health factors

- Conducted extensive Exploratory Data Analysis (EDA) and feature engineering to identify key premium determinants
- Implemented and compared multiple regression algorithms including Linear Regression, Decision Trees, Random Forest, and Gradient Boosting
- Achieved R^2 score of 0.85 through systematic model evaluation and hyperparameter optimization
- Performed data preprocessing including handling missing values, encoding categorical features, and feature scaling
- Created interactive web interface enabling users to input health parameters and receive instant premium estimates

Technologies: Python, Scikit-learn, Pandas, NumPy, Regression Models, Feature Engineering, EDA, Streamlit

Credit Risk Assessment Model | Financial ML Application

GitHub: https://github.com/NeelMahyavanshi/ml-project-credit-risk-model | Live App: https://credit-risk-utilization-ml-neel-mahyavanshi.streamlit.app/

Built credit risk prediction model using classification algorithms to assess loan default probability

- Addressed class imbalance using SMOTE (Synthetic Minority Over-sampling Technique) and resampling strategies
- Implemented multiple classification models including Logistic Regression, Random Forest, XGBoost for performance comparison
- Evaluated models using precision, recall, F1-score, ROC-AUC metrics to ensure robust risk assessment
- Applied feature selection techniques to identify most significant predictors of credit default
- Deployed decision support tool for real-time credit risk evaluation through Streamlit dashboard

Technologies: Python, Scikit-learn, XGBoost, Classification, SMOTE, ROC-AUC Analysis, Feature Selection, Streamlit

PROFESSIONAL EXPERIENCE

Technical Support Specialist

Maax Bath | Montreal, QC | May 2023 - Present

- Analyze and resolve complex technical issues through systematic problem-solving and diagnostic analysis
- Provide technical consultation to customers regarding product specifications, installation procedures, and warranty policies
- Collaborate with cross-functional teams including Shipping, Quality Assurance, and R&D to address customer concerns
- Utilize SAP for order management and Salesforce for customer relationship management and issue tracking
- Leverage TethrIT platform for troubleshooting via email and video communications
- Developed strong analytical skills through data-driven problem resolution and customer behavior analysis
- Enhanced communication skills by translating technical concepts for non-technical stakeholders

Store Manager

Dollarama | Montreal, QC | July 2022 - April 2023

- Conducted sales analysis and prepared data-driven reports for decision-making
- Managed project deadlines and coordinated multiple initiatives simultaneously
- Performed budget analysis and sales forecasting using Excel and data analytics
- Led team coordination and sales meetings demonstrating leadership capabilities

Human Resource Specialist

Air Canada | Montreal, QC | January 2022 - July 2022

- Maintained employee databases ensuring data accuracy and integrity using PeopleSoft, TruTrack, and ServiceNow
- Administered payroll processing and compensation data management
- Demonstrated proficiency in database management and data processing workflows
- Utilized DocuSign for document management and electronic signature workflows

EDUCATION

DEC – Medical Administration

CDI College | Montreal, Quebec, Canada | 2020 - 2022

Relevant Coursework: Advanced MS Office Suite (Excel, Word, PowerPoint, Outlook), Advanced Access Database, Management of Team, Organization, Data Management

CERTIFICATIONS & CONTINUOUS LEARNING

- Machine Learning Specialization - Self-study through online platforms (Coursera, Udemy, Youtube)
- Deep Learning & Neural Networks - Hands-on project-based learning
- Natural Language Processing with LLMs - Practical implementation with LangChain, Agno and OpenAI
- Computer Vision Fundamentals - CNN architectures and transfer learning

ADDITIONAL INFORMATION

Languages: English (Fluent), French (Intermediate)

Professional Attributes:

- Fast learner with proven ability to quickly master new technologies and frameworks
- Self-motivated with strong autonomous work ethic and proactive problem-solving approach
- Detail-oriented with focus on code quality, model performance, and production reliability
- Team player experienced in collaborative environments and cross-functional projects
- Passionate about AI with commitment to staying current with latest ML/AI advancements