Mohamad Ahmadi

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Profile

Passionate data scientist with over 5 years of experience, specializing in crafting intricate end-to-end machine learning models. Adept at leveraging a strong mathematical foundation to explore the latest tech trends, including language models, image models, information retrieval, text mining, recommendation systems, predictive modeling, fraud detection, and big data processing.

A track record marked by successful projects, demonstrating strong teamwork skills through collaboration with diverse teams, including healthcare workers, medical specialists, market experts, and cross-functional professionals from various backgrounds.

Skills

Languages: Python, Java, SQL, C/C++, R
Python Packages: Pandas, Numpy, Torch, Tensorflow, Keras, Transformers, Scikit-Learn, PySpark, OpenCV, Matplotlib, Plotly, Dash, Tox, FastAPI
Developer Tools: Git, PowerBI, Jira, Docker, Kubernetes, Apache
Cloud Services: Azure, AWS
Machine Learning and Deep Learning Algorithms: Decision Trees, Random Forest, XGBoost, CNNs, RNNs, GANs, LSTM
NLP Techniques: Word Embeddings, Named Entity Recognition, Sentiment Analysis, Text Classification, Topic Modeling, Text Generation, Transformer Models, Langchain
Databases: Microsoft SQL Server, MySQL, SQLite, DynamoDB, MongoDB
Large Language Models: OpenAI GPT, BERT, LaMDA, LLaMA
Image Models: Stable Diffusion, DreamBooth, Realistic Vision
Soft Skills: Communication, Teamwork, Leadership, Creativity

Experience

Bluecouch AI **January 2022 – Present**
Machine Learning Engineer *Vancouver, BC*

- Led a team in designing and developing a virtual assistant powered by LLMs such as **GPT-4** and **Llama 2** to provide expert-level answers and advice to insurance customers.
- Developed and executed query engineering to optimize the language model input, increasing the relevance and accuracy of responses provided by the virtual assistant by **30%**.
- Collaborated with cross-functional teams to integrate the virtual assistant seamlessly into the company's customer support infrastructure.
- Contributed to improving customer satisfaction and engagement by delivering timely and informative responses to insurance inquiries.
- Administered the development and deployment of fraud detection algorithms with an accuracy of **88%** to identify suspicious activities and potentially fraudulent claims in insured data, using machine learning techniques, such as anomaly detection and predictive modeling, to detect patterns indicative of fraud.

AI for Public Health **September 2022 – September 2023**
Artificial Intelligence Researcher *Toronto, ON*

- Curated a balanced multi-class dataset for **cyberbully detection** by applying self-training to existing limited labeled data.
- Introduced and developed an ensemble self-training algorithm to address the issue of data reliability, improving model robustness and accuracy by **35%**.
- Modified self-training algorithm to be compatible with powerful language models such as BERT.
- Pioneered a novel two-phase multi-label classification approach, resulting in a remarkable **10%** enhancement in accuracy over conventional multi-label classification methods.
- Collaborated with social media experts for data verification, ensuring the creation of a highly reliable labeled dataset.

Parhoon Nouandish Pars (Naptech) **April 2018 – July 2021**
Machine Learning Researcher *Tehran, Iran*

- Designed and implemented machine learning models to analyze and predict customer behavior in the banking industry, including churn prediction, customer lifetime value, and cross-selling opportunities.
- Utilized clustering analysis techniques to segment customers and products in the market, enabling targeted marketing and personalized product recommendations.
- Developed a scalable and efficient market segmentation system, increasing customer engagement by **10%** and streamlining marketing campaigns.
- Designed and implemented an unsupervised fraud detection system using anomaly detection algorithms to identify suspicious activities in customer data, achieving an F1-score of **86%**.
- Engineered the neural network architecture and standardized hyperparameters to optimize the model's performance on imbalanced Medicare datasets.

Education

University of Regina
Master of Science in Computer Science *Regina, SK*
Amirkabir University
Bachelor of Science in Computer Science *Tehran, Iran*