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 **GPT-3** language models to provide expert-level answers and advice to insurance customers.
- Employed query engineering to optimize the language model input and improve 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 providing timely and informative responses to insurance inquiries.
- Developed and deployed fraud detection algorithms with an accuracy of **88%** to identify suspicious activities and potentially fraudulent claims in insured data.
- Leveraged 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 that yielded a remarkable **10%** enhancement in accuracy over conventional multi-label classification methods.
- Collaborated with social media experts for data verification, resulting in 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 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, enabling the company to optimize marketing campaigns and increase customer engagement by **10%**.
- 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 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*