MOHAMAD AHMADI

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PROFILE

I'm a passionate data scientist with over 5 years of experience, focused on crafting complex end-to-end machine learning models. I bring a strong mathematical background to the table and love exploring the latest tech trends, including language models, image models, information retrieval, text mining, recommendation systems, predictive models, fraud detection, and big data processing, to drive smart data-driven decisions.
My track record is full of successful projects, and I've demonstrated strong teamwork skills by collaborating with diverse teams, including healthcare workers, medical specialists, market experts, and cross-functional professionals from various backgrounds.

EXPERIENCE

- **Machine Learning Engineer** Jan 2022 – Present
  Bluecouch AI Vancouver, Ca
  - 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.
- **Artificial Intelligence Researcher** Sep 2022 – Sep 2023
  AI for Public Health Toronto, Ca
  - 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.
- **Machine Learning Researcher** May 2018 – July 2021
  Parhoon Nouandish Pars (Naptech) 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 **86%**.
  - Engineered the neural network architecture and hyperparameters to optimize the model's performance on imbalanced Medicare datasets.

EDUCATION

MSc in Computer Science
University of Regina **GPA: 4/4**

BSc in Computer Science
Amirkabir University **GPA: 3.65/4**

EXPERTISE

- **Machine Learning and Deep Learning Algorithms**: Decision Trees, Random Forest, XGBoost, CNNs, RNNs, GANs, LSTM
- **NLP Algorithms**: Word Embeddings, Named Entity Recognition, Sentiment Analysis, Text Classification, Topic Modeling, Text Generation, Transformer Models

SKILLS

- **Languages:** Python, Java, SQL, C/C++, R
- **Python Packages:** Pandas, Torch, Tensorflow, Keras, Transformers, Scikit-Learn, PySpark, OpenCV, Matplotlib, Plotly, Dash
- **Developer Tools:** Git, PowerBI, Jira, Docker, Kubernetes, Apache
- **Cloud Services:** Azure, AWS
- **Databases:** Microsoft SQL Server, MySQL, SQLite, MongoDB
- **Language Models:** OpenAI GPT, BERT, LaMDA, LLaMA
- **Image Models:** Stable Diffusion, DreamBooth, Realistic Vision
- **Soft Skills:** Communication, Teamwork, Leadership, Creativity

PUBLICATION

- "Bandwidth Prediction in 5G Mobile Networks Using Informer", *2022 13th International Conference on Network of the Future (NoF), Ghent, Belgium, 2022, pp. 1-9*
- "5G Network Slice Type Classification using Traditional and Incremental Learning", *NOMS 2023-2023 IEEE/IFIP Network Operations and Management Symposium, Miami, FL, USA, 2023, pp. 1-5*
- "Self-Training for Cyberbully Detection: Achieving High Accuracy with a Balanced Multi-Class Dataset", *(Accepted)*