AmirMasoud Azadfar

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Professional Summary

Dynamic and innovative Lead Data Scientist and Machine Learning Engineer with extensive experience in Python development, specializing in application of AI in automation and data-driven technologies. Adept in crafting advanced solutions in NLP and LLMs, I excel at developing robust data pipelines and AI-driven applications. Led the design and implementation of scalable API infrastructures and multifunctional AI systems, significantly enhancing data processing, system personalization, and decision-making capabilities. My expertise extends to creating high-performance web crawlers and recommendation engines, integrating cutting-edge machine learning techniques to deliver precise, user-specific outcomes. Committed to continuous professional development, I am eager to apply my skills in new and challenging contexts to drive technological innovation and business success.

Skills

Python	**C++**	**C#**	**JavaScript**	**HTML**	**CSS**	**PineScript**
FastAPI	**.NET**	**MFC**	**Flask**	**Django**	**Node.js**	**React**	**Bootstrap**
NLP	**Recommendation Systems**	**LLMs**	**Transformers**	**GPT**	**SpaCy**	**BERT**	**TensorFlow**	**Scikit-Learn**
GitHub	**MySQL**	**Neo4j**	**S3**	**Redis**	**MongoDB**	**Linux**	**AWS**	**Hetzner**	**Uvicorn**
Persian (Native)	**English (Bilingual)**	**German (B1)**	**Armenian (A1)**

Work Experience

Lead Data Scientist and ML Engineer at CanApply Inc. *Mar 2023 - Present* (Remote)

- **NLP-Driven Web Crawler**: Developed a fully automatic, asynchronous recursive web scraping engine to collect and organize the data of **220+ universities** and their **13000+ programs** across Canada. Utilized **Selenium** for scrapping and the Knowledge Extraction Engine for content validation. Implemented a **hierarchical indexing system** for efficient data storage and retrieval on **AWS S3**. Rebuilt a replica of the uniform data in a **MySQL database**. Constructed a **Neo4j-Based Knowledge Graph** for research purposes.
- **Central Knowledge Extraction Engine**: Developed an automatic **knowledge clustering** and **relation matching** engine by integrating **SpaCy**, **BERT**, **text embeddings**, and **RegEx** for **rule-based NER**, **TF-IDF** and **LDA** for thematic clustering to build a **revolutionary data classification algorithm**.
- **Multifunctional Recommendation Engine**: Created a recommendation system, serving both as a **search engine** and a **degree program recommender**. Utilized **transformer-based text embeddings** and **vector similarity** to analyze user profiles and preferences, along with AI Assistant's search queries, delivering personalized program suggestions and accurate search results with **low latency** and **pagination**.
- **Dana, a RAG-enabled AI Assistant**: Utilized **GPT-4** within a **multi-layered query processing architecture** and a **retrieval-augmented generation model** by querying the recommendation engine to deliver real-time, data-driven responses based on conversation context for study abroad consultation.
- **Admission Chance Service**: Developed a predictive tool that assesses the likelihood of admission to specific degree programs at Canadian universities. Used **historical data** and **university requirements** to achieve 90% accuracy through **data analysis** and **feature engineering**.
- **Asynchronous API Infrastructure**: Designed a **scalable API infrastructure** using **FastAPI** and **Uvicorn ASGI** to manage and route requests across various AI product backend services. Integrated **WebSocket technology** to enable real-time interactions by streaming response tokens to the UI.

Data Analyst and Python Developer at Sepanta IT Co. *Dec 2017 - Jan 2023* (Full-Time)

- **Data Retrieval Pipeline**: Collaborated in building an asynchronous and comprehensive data retrieval system to collect and organize real-time financial data from various sources, including **Tehran Securities Exchange** and **Binance Exchange**, using **Python**. Utilized **BS4**, **Pandas**, **RegEx** for data extraction and manipulation and **SQLAlchemy** for database management.
- **Real-Time Option Bonds Trading Engine**: Developed a **trading engine** that **estimates the real value of option bonds** based on real-time financial data and executes buy or sell positions in the opposite direction on the **Tehran Securities Exchange**. Created a **risk management strategy** to automatically close and sell bonds when risk levels surpass a calculated threshold.
- **Automatic Triangular Arbitrage Hunter**: Programmed a system for **real-time detection** and **execution** of **triangular arbitrage opportunities** on **Binance exchange**. Utilizing **asynchronous API calls and threaded WebSocket streams**, the system **scans 600+ trading pairs**, triggers a **chain trading mechanism** when profitability exceeds fees and automatically executes trades.
- **Financial Data Analysis**: Developed multiple market analysis algorithms such as **Market Trend Identification** and **Hot Asset Detection** in Python and PineScript to get automatic market insights to recommend clients and traders with **profitable trading strategies**.
- **Market Alerts Robot**: Created an asynchronous backend infrastructure for a Telegram bot to automatically provide 1000+ subscribers with **real-time financial data** and **market insights** based on the outputs of our market analysis indicators. Leveraged **Telegram API** and **Django** to manage requests and real-time data updates, and **Celery** for scheduled alerts.
- **C++ Instruction**: Taught **C++ programming language** to a group of colleagues, focusing on **data structures**, **algorithms**, and **object-oriented programming** concepts as a volunteer instructor.

Projects

SmartHunt - AI-Driven Automatic Job Search Platform *Apr 2024 - Present*

'SmartHunt' revolutionizes **job searching** by **automating the discovery, analysis, and application processes**. This platform scans job sites like **Glassdoor**, **Indeed**, and **LinkedIn**, offering **personalized recommendations** and automatically **tailoring CVs and cover letters**. With features like **compatibility analysis** and **application tracking**, SmartHunt **transforms a typically lengthy job search into a swift, efficient experience**, significantly enhancing users' chances of securing desired positions quickly.

Infinity - ML-Driven Automatic Trading Engine *Mar 2022 - Present*

Developed **'Infinity'**, a sophisticated ML-driven trading engine that leverages novel strategies for **market trend identification** and **risk adjustment**. Utilizing **GridSearch** and a **Random Forest** model, the system optimizes parameters and **enhances decision accuracy** based on real-time Binance Exchange market data. A robust **API requestor suite** supports seamless data retrieval and automated order execution, ensuring **high operational efficiency**. Through extensive backtesting and adaptive strategy tuning, Infinity has **demonstrated profitability and effective risk management**, significantly enhancing trading performance.

Education

HBSc. in Computer Science, *Lakehead University, Canada* *Sep 2023 - Present*