Hamid Moradi-Kamali

Tehran, Iran | ha_moradi@comp.iust.ac.ir | +98 916 659 95 16 | hamidmoradikamali.ir

linkedin.com/in/hamk21 | github.com/hamidm21 | hamidmoradikamali.ir/scholar

Education

Iran University of Science and Technology, MSc in Software Engineering　　　Sep 2021 – Oct 2024
- GPA: 16.52/20
- Thesis on Language Models as Explainable Trading Agents
- Thesis Grade: 18.99/20 (Maximum grade by committee - decreased for the university-enforced delays)
- Achieved A+ grade in 4 out of 10 courses

Lorestan University, BS in Computer Engineering　　　Sep 2017 – Aug 2021
- Achieved A+ grade in key courses: Object Oriented Programming, Programming Language Design, and Software Engineering.
- Final Project: "Face Detection: A Cascade Approach" Under Dr. Dowlatshahi

Research Interests: Natural Language Processing, Software Engineering, Explainable AI

Research Experiences

Market-Derived Financial Sentiment Analysis: Context-Aware Language Models for Crypto Forecasting, Algo Trading Research Lab - Dr. Entezari - IUST　　　Jan 2024 – Jan 2025
- Proposed an all-in-one language model approach to financial sentiment analysis, achieving an 89.6% accuracy rate in Bitcoin price prediction by leveraging market-derived labels instead of traditional sentiment analysis.
- Utilized prompt fine-tuning to integrate market and temporal context into financial tweets, improving model performance by 11% compared to human-annotated sentiment labels.
- Introduced simple and effective methods for aggregating daily tweets, enabling the generation of actionable trading signals that outperformed benchmarks in risk-adjusted profit.
- Applied Explainable AI techniques to evaluate the impact of prompt features, ensuring the model's robustness and interpretability in real-world financial applications.
- Coordinated a team of undergraduate students, mentoring them in project implementation and fostering a collaborative research environment.
- Authored the research paper with LaTeX, contributing to all stages of visualization, drafting, and experiment tracking to produce the final version.

Stock Market Dynamics Through Deep Learning Context, Explainable AI Group - Dr. Etemadi - IUST　　　Oct 2022 – Mar 2023
- Interpreted feature importances in the Twitter data space, identifying key factors influencing market dynamics
- Introduced a novel feature vector for the most effective exploitation of Twitter data, enhancing predictive accuracy
- Authored the related works and introduction sections of the research paper, providing a comprehensive overview of the study's context and significance

Publications

Market-Derived Financial Sentiment Analysis: Context-Aware Language Models for Crypto Forecasting　　　Feb 2025

H. Moradi-Kamali, M. Rajabi-Ghozlou, M. Ghazavi, A. Soltani, A. Soltanzadeh, R. Entezari-Maleki

Preprint available on https://arxiv.org/abs/2502.14897

Stock Market Dynamics through Deep Learning Context　　　Jan 2024

A. Aminimehr, A. H. Aminimehr, *H. Moradi-Kamali*, S Eetemadi, S Hoseinzade

Preprint available on https://arxiv.org/abs/2405.09932

Teaching Experience

Algorithmic Trading, IUST - Algo Trading Research Lab   Sep 2022 – Jan 2024
- Designed the course material covering topics such as technical analysis, time series modeling, mean-reversion strategies, financial recommender systems, and backtesting techniques.
- Presented the latest advancements in textual financial analysis such as financial sentiment analysis for market forecasting, and LLMs as financial advisors in the course material, bridging research and practical applications to inspire research-oriented learning.
- Supervised two internship projects on algorithmic trading, offering mentorship and hands-on training to undergraduate students.
- Taught graduate students in one semester (10 students attendance) and undergraduate students across two semesters (30 students attendance).

Relevant Work Experiences

Team Lead, Finbright   Nov 2022 - Jul 2024
- Led a team of graduate and undergraduate students in developing Finbright, an intelligent AI-based assistant for traders and investors in cryptocurrency markets
- Applied machine learning and deep learning techniques to provide a production-level software platform
- Assembled a distributed cluster of servers tailored to our specific deployment and machine learning requirements in our lab
- Designed and implemented a social media sentiment analysis pipeline to predict market volatility in real-time

Co-founder, Kahroba Creative Software Company   Oct 2019 - Jan 2022
- Co-founded Kahroba Creative Company, providing reliable software solutions for businesses
- Acted as the technical lead, overseeing the technical aspects of the company's operations and projects
- Led and mentored a team of developers, fostering a collaborative and high-performing work environment
- Developed a highly efficient video streaming system using gRPC for Fitex Application, overcoming business and marketing challenges, and presenting it at the INOTEX 2020 Exhibition
- Created software solutions for travel agencies at 3-Tour Startup, building a robust web application using Typescript and Node.js, and expanding the client base through effective negotiation and promotion.

Full Stack Engineer, Halyab   Mar 2020 - Aug 2020
- Redesigned and implemented the web application of the question-answering platform, expanding its features and improving user engagement.
- Created a user-friendly website with optimal performance using Next.js and Python Django.
- Received recognition at the Iran Web and Mobile Festival for exceptional website design.

Back End Developer, Q Company   Mar 2017 - Sep 2018
- Reengineered the Goftare platform, a startup providing online therapy, to improve efficiency, speed, and code readability.
- Transformed the backend architecture from a monolithic to a service-oriented architecture (SOA), improving scalability and maintainability.
- Collaborated closely with the development team, implementing Agile methodologies such as Scrum for effective teamwork and management.

Software Development Intern, Q Company   Jan 2017 - Mar 2017
- Gained hands-on experience in software development, learning essential skills including Scrum, Git, JavaScript, Node.js, and MongoDB.

Certificates

Introduction to Aristotle's Ethics: How to Lead a Good Life, Hillsdale College   Sep 2024
- Approximately 6.5 hours
- Subjects: Ethics, and Philosophy

Natural Language Processing Specialization, DeepLearning.AI   Jan 2024
- Consisted of 4 separate courses
- 3 months at 10 hours a week (Approximately 120 hours)
- Transformers, Attention Models, Word Embeddings, Sequence Models

Mathematics for Machine Learning: Multivariate Calculus, Imperial College   Aug 2023
- Approximately 17 hours

- Subjects: Multivariate Calculus, Gradient Descent, Regression Models

Writing in the Sciences, Stanford University   Jul 2023
- Approximately 30 hours
- Subjects: Writing, Scientific Writing, Grant Writing

Technical Skills

- **Programming Languages:** Python (4 years), Javascript/Typescript (3 years), Go, and Java (1 year)
- **Scientific Writing**: LaTex, Matplotlib Visualization, Neptune AI (Experiment Tracker)
- **Libraries:** Pytorch, Pandas, Scikit-learn, Numpy, NLTK, Scipy
- **Web Development Tools:** Django, Node.js, React.js, Vue.js, Next.js, Gatsby.js
- **Databases:** MongoDB, PostgreSQL, Redis
- **Message Queues:** Apache Kafka, RabbitMQ
- **Deployment:** Linux, Docker, Docker Swarm, Gitlab CI, GitHub Actions
- **Communication Protocols:** REST API, Websockets, gRPC
- **Software Development Methodologies:** Agile, Scrum, Kanban
- **Networking:** DHCP, Firewall Setup, Routing, VPN, PfSense

Achievements and Volunteering

Member of the Executive Team at the 29th International Computer Conference (CSICC) - Sharif University of Technology, 5-6 Feb, 2025

Ranked in the top 3% of National Contestants - Iran National Entry Exams (Konkur) for Computer Engineering (Graduate Entry), among approximately 10,000 participants in 2021

Ranked in the top 6% of National Contestants - Iran National Entry Exams (Konkur) for Mathematics (Undergraduate Entry), among approximately 143,000 participants in 2017

Best Website Design Nomination for Halyab - Iran Mobile and Web Festival 2020 (The most prestigious software competition in Iran)

Presenter at the INOTEX 2020 Exhibition - Presentation on digital health, and Fitex application as an automated coaching platform

Languages

- Farsi: Native
- English (IELTS):
  - Overall: 8.0   Listening: 9.0   Reading: 9.0   Writing: 7.0   Speaking: 7.0

References

Dr. Reza Entezari-Maleki (Supervisor)	Position: Assistant Professor Institution: Iran University of Science and Technology Email: entezari@iust.ac.ir
Dr. Saeed Parsa	Position: Full Professor Institution: Iran University of Science and Technology Email: parsa@iust.ac.ir
Dr. Mohammad Bagher Dowlatshahi	Position: Associate Professor Institution: Lorestan University Email: dowlatshahi.mb@lu.ac.ir