Roham Koohestani

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Profile

Senior Computer Science & Engineering student at TU Delft with research interests in AI for Software Engineering, machine learning, and human-AI interaction. Experienced with LLMs, generative models, and synthetic data, with publications at ICSE and FSE. Aspiring researcher aiming for a PhD and future academic career.

Professional Experience

Human-AI Experience Research Intern, JetBrains, Amsterdam
Apr 2025 — Present

- Designed and implemented calibration frameworks for LLM-based code completion within JetBrains IDEs, combining statistical evaluation with user-centric measures.
- Conducted empirical studies on developer-AI interaction, contributing to ongoing research on trustworthy AI for software engineering.
- Collaborated and helped coordinate with faculty and graduate researchers from various institutions on experiments, data analysis, and publications, and contributing to ongoing projects in human-AI interaction and trustworthy AI.

Research Assistant, AISE-TUDelft, Delft
Jan 2025 — Present

- Explored architectural adaptations of LLMs for source code, improved task-specific applicability through fine-tuning strategies.
- Investigated integration pathways for developer-facing AI assistants, to optimize usability in real-world development environments.

Scientific Developer, AISE-TUDelft, Delft
Jul 2024 — Jan 2025

- Developed methods to improve AI-driven software engineering
- Gained hands-on experience at the intersection of AI research and development
- Collaborated on research on advancing LLMs4Code

Software Engineering Intern, Syntho B.V., Amsterdam
Sept 2023 — Jun 2024

- Assessed and benchmarked synthetic data generators by comparing performance with open-source alternatives.
- Investigated and integrated state-of-the-art developments from academic literature into synthetic data techniques.
- Designed and implemented advanced synthetic data generation methods, including a novel, scalable approach for synthesizing time-series sequences conditioned on metadata.

High School Intern, Syntho B.V., Amsterdam
Sept 2022 — Sept 2023

- Researched methods to minimize bias in data, enhancing fairness in machine learning systems.
- Applied synthetic data generation techniques to create unbiased datasets for AI applications.
- Contributed to projects focused on fairness in AI and data science.

Education

Delft University of Technology, Delft
Bachelor of Science (BSc), Computer Science & Engineering, Delft University of Technology, Sept 2023 — Present

Major in Computer Science and Engineering. Elective in data (Big-data Processing, Data Mining, and Computational Intelligence) - Expected graduation (Feb, 2026)

University of Amsterdam, Amsterdam
Mathematics Minor, Sept 2025 — Present

Minor in mathematics with a focus on theoretical mathematics related to computer science. Followed courses include: Number and Set Theory, Theory of Statistics, Ordinary Diferential Equations, Introduction to Information Theory, and Markov Chains.

Het College Weert, Weert
Nature & Technology (N&T), Aug 2020 — Jul 2023

Publications

Leveraging Large Language Models for Enhancing the Understandability of Generated Unit Tests

Accepted at the IEEE/ACM International Conference on Software Engineering (ICSE '25)

Rethinking IDE Customization for Enhanced HAX: A Hyperdimensional Perspective

Accepted at the 2nd workshop on Integrated Development Environments (the IDE Workshop) co-located with ICSE '25.

HyperSeq: A Hyper-Adaptive Representation for Predictive Sequencing of States

Accepted at the ACM International Conference on the Foundations of Software Engineering (FSE '25)

AgentGuard: Runtime Verification of AI Agents

Accepted at the AgenticSE workshop, co-located with the IEEE/ACM International Conference on Automated Software Engineering (ASE '25)

Benchmarking AI Models in Software Engineering: A Review, Search Tool, and Enhancement Protocol

ArXiV PrePrint - Under review for publication in the IEEE Transactions on Software Engineering

Code4MeV2: a Research-oriented Code-completion Platform

ArXiV PrePrint - Under review for publication in the demonstrations track of the IEEE/ACM International Conference on Software Engineering (ICSE '26)

Does In-IDE Calibration of Large Language Models work at Scale?

ArXiV PrePrint - Under review for publication in the technical track of the International Mining Software Repositories Conference (MSR '26)

Are Agents Just Automata? On the Formal Equivalence Between Agentic AI and the Chomsky Hierarchy

ArXiV PrePrint - Under review for publication in the Agents workshop co-located with the IEEE/ACM International Conference on Software Engineering (ICSE '26)

Technical Skills

Programming: Python, Java, Kotlin, C++, Haskell
ML & AI: PyTorch, TensorFlow, Hugging Face Transformers, scikit-learn, NumPy, pandas
Data & Systems: Spark, Flink, SQL, Docker, Kubernetes, Bazel, FastAPI
Tools: Git, JetBrains IDEs, Jupyter, LaTeX

Community Service

Co-reviewed for various venues and journals

ICSE ('25, '26C1, '26C2), FSE ('25), ASE ('25), EMSE ('25)

Reviewer for Conference

DeepLearning4Code Workshop @ NeurIPS 2025

Web-Chair for Conference

AgenticSE Workshop @ ASE 2025

Volunteering

Student Volunteer at the Dutch national symposium on software engineering (SEN), Amsterdam
May 2025

- Helped the organizers with tasks they had on the day of the event

Advisory Board & Mentoring Committee Member, D.I.S.A. Alborz, Delft
Oct 2024 — Present

- Serve as an advisory board member, providing guidance and strategic advice to help the current board effectively manage challenges and make informed decisions.
- Serve as a mentoring committee member, providing students access to activities to better integrate them into dutch society.

Treasurer & Head of Internal Affairs, D.I.S.A. Alborz, Delft
Oct 2023 — Oct 2024

- Managed finances and organized cultural events, including Yalda and Nowruz, to celebrate Iranian heritage.
- Fostered cultural awareness and a sense of belonging for Iranian students within the international community.
- Collaborated with the board to encourage unity and cultural exchange within a diverse student population.

Additional Information

Links: Linkedin, Google ScholarORCiDGitHub
Languages: English, Dutch, Persian