Mahsa Eftekhari

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Professional Summary: Experienced Applied Scientist specializing in integrating large language models (LLMs) with top-tier products. Expertise in designing quality evaluation pipelines, fine-tuning models, and algorithm design. Published author in top tier conferences and journals.

EXPERIENCE

Microsoft - Applied Scientist II   Aug. 2022 – Present

- Integrated LLM with Microsoft products (Copilot, Designer, Edge sidebar chat, Enterprise Bing chat).
  I collaborated with the team in design, development, prompt iteration, quality evaluations, quality improvement, and metric adjustments using Python, C#, TypeScript, and AML tools via Codex, GPT-3, GPT-4, GPT-4o model series.
- Played a key role in the introduction and launch of **Customizable GPTs** for both consumer and enterprise worlds.
- Designed and implemented **quality evaluation** pipelines for LLM integration.
- **Fine-tuned** LLM based models using state-of-the-art techniques and evaluated their quality using Python, C#, and Azure ML tools.

Google - Software Engineering Intern   Summer 2020

- Implemented data cleaning and verification pipeline using Python and REST API for Google Knowledge Graph.
- Initiated, designed and implemented a procedure to address missing values in data series using Go, providing interfaces for the knowledge graph team.

UC Davis - Research Assistant   2017 – 2022

- Designed, analyzed, and simulated distributed computing algorithms.
- Implemented (Java) simulations for a **distributed computing model**, population protocols, to study the time and memory complexity of randomized real-world physical systems.

SELECTED PUBLICATIONS

- A Time and Space Optimal Stable Population Protocol Solving Exact Majority.
  - (Full version) **IEEE Symposium on Foundations of Computer Science (FOCS)**
  - (BA) ACM Symposium on Principles of Distributed Computing **(PODC)**
- A survey of size counting in population protocols. Theoretical Computer Science Journal **(TCS)**
- Message complexity of population protocols. International Symposium on Distributed Computing **(DISC)**
- Efficient size estimation and impossibility of termination in uniform dense population protocols. **ACM Symposium on Principles of Distributed Computing (PODC)**
- BA: Exact size counting in uniform population protocols in nearly log time. International Symposium on Distributed Computing **(DISC)**

SKILLS

Programming Languages:
Python, Java, C#, Go, SQL

Tools: Git, AML, LaTeX

Machine Learning:
LLM, Fine Tuning, Prompt Engineering, Deep Learning, Transformers, Clustering
Other: Distributed Computing, Data Science, Algorithm Design, Data Visualization, Probability & Combinatorics

EDUCATION

Ph.D. in Computer Science
University of California, Davis

📅 2017 – 2022

- **Focus:** Distributed Algorithms
- **Thesis:** Computation in Population Protocols: Exact Majority, Uniform Computation, and the Dynamic Model
- **Awards**: UC Davis GGCS Richard Walters scholarship, GHC scholarship, CRA-W scholarship, UC Davis graduate fellowship

M.Sc. in Computer Engineering-
Sharif University of Technology

📅 2015 – 2017

- **Focus:** Online Algorithms
- **Thesis:** Online Algorithms for Fair Allocation of Goods
- **Honors**:
  - **Ranked 15th**: National Scientific Olympiad in Computer Engineering
  - **Ranked 3rd** (about 5000 participants): National Graduate Entrance Exam in Computer Science
  - **Ranked 15th** (about 18000 participants): National Graduate Entrance Exam in Software Engineering.

B.Sc. in Computer Science
Sharif University of Technology

📅 2010 – 2015