

Shayan Talaei

Curriculum Vitae

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Education

Ph.D. in Management Science and Engineering Fall 2023 - present
Stanford University, CA, USA

M.Sc. in Management Science and Engineering Fall 2023 - Winter 2025
Stanford University, CA, USA
CGPA: 4.18/4

Bachelor of Computer Engineering Fall 2019 - Spring 2023
Sharif University of Technology, Tehran, Iran
Rank 2 out of 199 students in the computer engineering department.
CGPA: 19.82/20

Publications and Preprints

E. Biju*, **S. Talaei***, Z. Huang*, M. Pourreza, A. Mirhoseini, A. Saberi, “SPRINT: Enabling Interleaved Planning and Parallelized Execution in Reasoning Models.” COLM 2025, SCALR workshop [paper](#)

S. Talaei, M. Li, K. Grover, J. K. Hippler, D. Yang, A. Saberi, “StorySage: Conversational Autobiography Writing Powered by a Multi-Agent Framework.” UIST 2025 [paper](#), [code](#)

Z. Zhou*, F. Wu*, **S. Talaei***, H. Zhao, C. Meixin, T. Xu, A. Saberi, Y. Choi, “When to Trust Context: Self-Reflective Debates for Context Reliability.” Under review. [paper](#)

M. Pourreza*, **S. Talaei***, R. Sun, X. Wan, H. Li, A. Mirhoseini, A. Saberi, S. O. Arik, “Reasoning-SQL: Reinforcement Learning with SQL Tailored Partial Rewards for Reasoning-Enhanced Text-to-SQL.” COLM 2025 [paper](#)

M. Pourreza*, H. Li*, R. Sun, Y. Chung, **S. Talaei**, G. Tarlok Kakkar, Y. Gan, A. Saberi, F. Özcan, S. Ö. Arik, “CHASE-SQL: Multi-Path Reasoning and Preference Optimized Candidate Selection in Text-to-SQL.” ICLR 2025 [paper](#)

S. Talaei, M. Pourreza, Y. Chang, A. Mirhoseini, A. Saberi, “CHESS: Contextual Harnessing for Efficient SQL Synthesis.” ICML 2025, MAS workshop [paper](#), [code](#)

A. AhmadiTeshnizi, W. Gao, H. Brunborg, **S. Talaei**, C. Lawless, M. Udell, “OptiMUS-0.3: Using Large Language Models to Model and Solve Optimization Problems at Scale.” Under review. [paper](#)

S. Talaei*, M. AnsariPour*, G. Nadiradze, D. Alistarh, “Hybrid Decentralized Optimization: First- and Zeroth-Order Optimizers Can Be Jointly Leveraged for Faster Convergence.” AAAI 2024 [paper](#), [code](#)

H. Zakerinia, **S. Talaei**, G. Nadiradze, D. Alistarh, “Communication-Efficient Federated Learning With Data and Client Heterogeneity.” AISTATS 2024 [paper](#), [code](#)

Research Internships

Internship in Machine Learning Theory June 2022 - Sept. 2022
Swiss Federal Institute of Technology in Lausanne (EPFL Switzerland)
Supervised by: [Prof. Emmanuel Abbe](#), [Theodor Misiakiewicz](#)
Developed iterative kernel learning methods bridging traditional kernel techniques with neural networks for small-sample learning scenarios.

Internship in Distributed and Federated Optimization July 2021 - June 2022
Institute of Science and Technology Austria (IST Austria)

Supervised by: **Prof. Dan Alistarh, Dr. Giorgi Nadiradze**

Designed and analyzed distributed optimization and federated learning algorithms under computation constraints and communication overhead.

Awards

- 2024 **First place** AGI House's hackethon on fine-tuning and RAG, USA.
- 2023 **Two-year of fellowship for PhD studies** School of Engineering, Stanford.
- 2022 **Top rank** student among 199 students in the Computer Engineering department, SUT Iran.
- 2019 **Gold medal** International Mathematical Olympiad (IMO), United Kingdom.
- 2019 **Gold medal** ELMO Mathematical Olympiad, USA MOP.
- 2019 **Silver medal** Romanian Master of Mathematics (RMM), Romania.
- 2019 **First-degree Diploma** XVIII Silk Road Mathematical Competition (SRMC), Kazakhstan.
- 2019 **Iran's National Elites Foundation (INEF) fellowship** Iran, Since 2019.
- 2018 **Gold medal (Perfect score)** European Mathematical Cup (EMC), Croatia.
- 2018 **Gold medal (Rank 1)** Iranian National Mathematical Olympiad, Iran.
- 2018 **First-degree Diploma** XVII Silk Road Mathematical Competition (SRMC), Kazakhstan.
- 2017 **Gold medal (as national and international)** Iranian Geometry Olympiad (IGO), Iran.
- 2017 **First Diploma** XIII Olympiad in Geometry in honor of I.F.Sharygin, Russia.
- 2016 **Gold medal (as national and international)** Iranian Geometry Olympiad (IGO), Iran.
- 2016 **Second Diploma** XII Olympiad in Geometry in honor of I.F.Sharygin, Russia.

Selected presentations

- Set agreement impossibility proof through Combinatorial Topology** Dec. 2021
Modern distributed systems and algorithms course at IST Austria
 Presentation on the proof of FLP impossibility from the perspective of Combinatorial Topology, as the course project.
[\(slides\)](#)
- Constraint satisfaction technique for Combinatorics problems** Feb. 2021
The joint Iran-Ukraine mathematics olympiad camp
 Lectured on a self-developed technique and thinking method for multi-conditional statement problems.
 Explained and utilized the technique in the [IMO](#) and [RMM](#) most challenging problems.
 Presentation in English for **the national gold medalists of Iran and Ukraine**.

Teaching experience

- Teacher assistant** Spring 2021
Sharif University of Technology (SUT Iran)
 Teacher assistant for the course discrete mathematics and structures lectured by [Prof. Mohammad Ali Abam](#).
 Organized and taught problem-solving sessions for a third of the course syllabus.
 Graded midterm exam of the course for 100 students.
- Scientific committee member** 2019-2021
[Iranian Young Scholar Club\(IYSC\)](#)
 Proposing and selecting problems for the Iranian National Mathematical Olympiad: first, second rounds, summer camp exams, IMO team selection tests.
 Instructor and consultant in mathematics competitions for the Iranian gold medalists and Iran's IMO team members.
- Scientific committee member** Sept. 2020
[Iranian Geometry Olympiad \(IGO\)](#)
 Gauged and crafted solutions for more than 90 problems proposed from 12 countries.
 Collaborated with other members in designing contests for three levels, held in 49 countries. [\(booklet\)](#)

Skills

Programming Python | Java | C | C++ | SQL | Bash
Frameworks PyTorch | Tensorflow, Keras | |
Languages English | Persian

Related Coursework

Machine Learning | Deep Learning | Artificial Intelligence | Linear Algebra | Probability and Statistics
Modern Distributed Systems and Optimization (at IST Austria) | Computer Networks | Operating Systems
Numerical Methods for Optimization | Algorithm Design | Advanced Programming | Discrete Structures

References

Prof. Amin Saberi

Stanford University

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Prof. Azalia Mirhoseini

Stanford University

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Prof. Emmanuel Abbe

Swiss Federal Institute of Technology in Lausanne (EPFL Switzerland)

✉ Email emmanuel.abbe@epfl.ch 🌐 Webpage sma.epfl.ch/~abbe/

Prof. Dan Alistarh

Institute of Science and Technology Austria (IST Austria)

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