

# Shayan Talaei

## Curriculum Vitae

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## Education

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**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

## Selected Publications and Preprints

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

**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](#), [code](#)

**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

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**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**

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- 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**

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**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**

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**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](#))

## References

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**Prof. Amin Saberi***Stanford University*✉ Email [saberi@stanford.edu](mailto:saberi@stanford.edu) 🌐 Webpage [stanford.edu/~saberi/](https://stanford.edu/~saberi/)**Prof. Azalia Mirhoseini***Stanford University*✉ Email [azalia@stanford.edu](mailto:azalia@stanford.edu) 🌐 Webpage [azaliamirhoseini.com/](https://azaliamirhoseini.com/)**Prof. Emmanuel Abbe***Swiss Federal Institute of Technology in Lausanne (EPFL Switzerland)*✉ Email [emmanuel.abbe@epfl.ch](mailto:emmanuel.abbe@epfl.ch) 🌐 Webpage [sma.epfl.ch/~abbe/](https://sma.epfl.ch/~abbe/)**Prof. Dan Alistarh***Institute of Science and Technology Austria (IST Austria)*✉ Email [dan.alistarh@ist.ac.at](mailto:dan.alistarh@ist.ac.at) 🌐 Webpage [people.csail.mit.edu/alistarh/](https://people.csail.mit.edu/alistarh/)