Daniel Saeedi

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Research Areas

Artificial Intelligence, Machine Learning, Alignment Problem, Natural Language Processing, Generative Models, Fairness in ML, Agentic AI, Diffusion Models, Inverse Problems, AI Safety

Education

Ph.D. in Electrical and Computer Engineering, *Georgia Institute of Technology* Sep 2023 - Present

- **Advisor:** Prof. Amirali Aghazadeh
- **Collaborative Specialization:** Machine Learning and Digital Signal Processing
- **Relevant Coursework:** Generative and Geometric Deep Learning (A), Statistical Machine Learning (A)

B.S. in Computer Engineering, *University of Tehran GPA: A - 17.98/20* Sep 2019 - Jun 2023

- **Relevant Coursework:** Neural Networks and Deep Learning, Artificial Intelligence, Algorithm Design, Data Structures and Algorithms, Advanced Programming, Differential Equations

Technical Skills

Machine Learning Tools: PyTorch, Tensorflow, Keras, NLTK, Hugging Face Transformers Library (BERT, ALBERT, RoBERTa, GPTs), LangChain, LangGraph
Programming Language & Tools: Python, C/C++, Java, R, MATLAB, Numpy, Pandas, scikit learn, Git

EXPERIENCE

Graduate Research Assistant at Georgia Institute of Technology, Advisor: Prof. Amirali Aghazadeh

- Developing deep learning-based methods to reduce the cost of CryoEM imaging, improving accessibility and efficiency in structural biology research.
- Leveraging AI agents to accelerate scientific discovery and automate complex research workflows.
- Analyzing astrobiological data from NASA using AI to advance research on the origin of life.

Research Fellow at: **Fatima Fellowship 2022**, Mentor: Dr. Abubakar Abid May 2022 - Dec 2022

- Detected issues of SOTA debasing techniques such as SentDebias and INLP in masked language modeling
- Developed a debiasing inference technique to mitigate biases in transformer models
- Built PyDebiaser, an open-source library including seven debiasing methods in Transformers

Jooyan: 2014 - 2016

- Founded a startup to help companies in hiring skilled programmers through programming challenges
- Developed an online course forum (in Farsi) offering a range of learning opportunities with hands-on projects

TEACHING EXPERIENCE

Generative and Geometric Deep Learning at Georgia Tech, *Head Teaching Assistant* Fall 2024-2025

- Assisted students with course projects and assignments
- Provided support in understanding complex generative and geometric deep learning concepts

Digital Design Lab at Georgia Tech, *Head Teaching Assistant* Spring 2024

- Managed a team of teaching assistants and supervised over 50 students
- Led lab sessions and graded assignments

Neural Networks and Deep Learning, *Instructor: Dr. Kalhor* Spring - Fall 2022

- Graduate level course and supervised ~ 90 graduate students
- Developed multiple deep learning projects and advised student teams on project implementation

Introduction to Computer and Programming, *Instructors: Dr. Moradi and Dr. Tavassolipour* Fall 2021

- Designed projects and homework assignments and assisted students in projects
- Supervised $\sim$ 200 students

Publications

- **D. Saeedi**, D. K. Buckner, J. C. Aponte, A. Aghazadeh. **AstroAgents: Agentic AI for Scientific Discovery**. *ICLR 2025 Workshop AgenticAI and AMS 2025 conference* (Oral Presentation), Feb 2025. [Project Website]
- **D. Saeedi**, D. Buckner, T. Walton, J. C. Aponte, A. Aghazadeh. **Mass Spectrometry Data Enables the Classification of Meteoric and Terrestrial Samples and Elucidates Pathways of Polycyclic Aromatic Hydrocarbon Synthesis**. *PNAS* (under publication) [Project Website].
- D. K. Buckner, **D. Saeedi**, T. Walton, J. C. Aponte, A. Aghazadeh. **Lunar and Planetary Science Conference**. *Oral Presentation*, March 2025.
- José C. Aponte, Hannah L. McLain, **Daniel Saeedi**, Amirali Aghazadeh, Jamie E. Elsila1, Daniel P. Glavin, Jason P. Dworkin. **Challenges and Opportunities in Using Amino Acids to Decode Carbonaceous Chondrites and Asteroids Parent Body Processes**. *Astrobiology Journal*
- **D. Saeedi**, A. Kheirandish, S. Saeedi, H. Sahour, A. A. Panahi, I. Naeeni. **GT-NLP at SemEval-2025 Task 11: EmoRationale, Evidence-Based Emotion Recognition via Retrieval-Augmented Generation**. *SemEval-2025* , July 2025.
- **D. Saeedi**, A. Panahi, S. Saeedi, A. Fong. **Effective Data Augmentation Methods for Multi-label Classification Language Understanding Tasks**. *Proceedings of 16th International Workshop on Semantic Evaluation (SemEval), 2022.*

FELLOWSHIPS

- AI Safety Research Fellow — AISI — Sep 2025
- Fatima Fellowship — research in machine learning — 2022

MEDIA & PRESS

- Nature news feature on AstroAgents — May 2025
- Coverage in Astrobiology.com — Apr 2025
- Georgia Tech News: "How Agentic AI Is Rethinking the Origins of Life on Earth" — Jun 2025

AWARDS & RANKINGS

- 1st place, Employment category — Iran Web Festival (among hundreds of entries) — 2014
- WorldSkills Olympiad, Web Development — 4th place — 2016

TALKS & PRESENTATIONS

- **D. Saeedi**, D. K. Buckner, J. C. Aponte, A. Aghazadeh. **AstroAgents: Agentic AI for Scientific Discovery**. *ICLR 2025 Workshop AgenticAI and AMS 2025 conference* (Oral Presentation), Feb 2025. [Project Website]
- Selected to present *Jooyan* (Top 20 startup) at the iBridge Berlin & Berkeley Entrepreneurship Conferences 2015