Mehdi Safaee

Researcher at Simon Fraser University
GrUVi (Graphics+Vision) Lab

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Education

- **Simon Fraser University** — Burnaby, Canada
  M.Sc. (Thesis) in Computer Science (GPA: 4.09/4.33) — *2022 - 2024*
- **Amirkabir University of Technology (Tehran Polytechnic)** — Tehran, Iran
  B.Sc. in Computer Engineering (GPA: 16.47/20) — *2013 - 2019*
- **Amirkabir University of Technology (Tehran Polytechnic)** — Tehran, Iran
  Minor in Electrical Engineering — *2013 - 2019*

Honors

Ranked 1st in Iranian National Artificial Intelligence Contest (Rahneshan) (≈ 500 *students*) 2018
Among top 10% of students of AUT Computer Engineering faculty (≈ 90 *students*) . $2015 - 2019$
Ranked 1st among all the students of Ghalam high-school (≈ 60 *students*) . . . . . $2009 - 2012$
Semi-finalist at mathematics, physics, and astronomy olympiads in high-school 2011

Publications

1. M. Safaee, A. Mahdavi-Amiri; *Attention Guidance in Diffusion Models.* M.Sc. Thesis in Computer Science, Simon Fraser University, Burnaby, Spring 2024.
2. M. Safaee, A. Mikaeili, O. Patashnik, D. Cohen-Or, A. Mahdavi-Amiri; *CLiC: Concept Learning in Context.* Arxiv Preprint submitted to CVPR, 2024.
3. A. Mikaeili, O. Perel, M. Safaee, D. Cohen-Or, A. Mahdavi-Amiri; *SKED: Sketch-Based Text-Guided 3D Editing.* Presented at ICCV, 2023.
4. M. Safaee, M. Sedighi; *Realtime Implementation and RTL Acceleration of Deep Q-Learning Algorithm for Designing an Intelligent Path-finding Agent.* B.Sc. Thesis in Computer Engineering, Amirkabir University of Technology, Tehran, October 2019.

Selected Courses

Diffusion Models (SFU) . . . . . (A)
Neural 3D Modeling (SFU) . . . . . (A+)
Reinforcement Learning (SFU) . . . . . (A-)
Generative Models (SFU) . . . . . (A+)
Geometric Modeling (SFU) . . . . . (A)
Computer Vision (SFU) . . . . . (A+)
Technical Writing (SFU) . . . . . (A)
Neural Networks (AUT) . . . . . (A+)
Artificial Intelligence (AUT) . . . . . (A)
Machine Learning (AUT) . . . . . (PASS)
Probabilities and Statistics (AUT) . . . (A+)
Fundamentals of Programming (AUT) (A+)
Advanced Programming (AUT) . . . . (A+)
Data Structures and Algorithms (AUT) (A)
Parallel Processing (AUT) . . . . . (B+)
Linear Control (AUT) . . . . . (A+)
Signals and Systems (AUT) . . . . . (A)
Digital Signal Processing (AUT) . . . . (PASS)
Computer Architecture (AUT) . . . . . (A)
Embedded Systems (AUT) . . . . . (A+)

Experiences

- **GrUVi (Graphics+Vision) Lab (Simon Fraser University)** — Burnaby, Canada
  Applied AI Researcher — *Jan. 2022 - Present*
  - Under the supervision of Prof. Ali Mahdavi-Amiri
  - Researched customization of attention mechanism in diffusion models

- **Matt3r Technologies Inc.** — Vancouver, Canada
  Part-Time Computer Vision Software Engineer — *Apr. 2022 - Aug. 2023*
  - Under the supervision of Amir Saheb (Chief Data Scientist)
  - Developed various industrial-grade autonomous driving solutions

- **Farand Systems** — Tehran, Iran
  Robotics Software Engineer — *Dec. 2019 - Dec. 2021*
  - Under the supervision of Afshin Navabi (CTO)
  - Developed various industrial-grade robotics and autonomy solutions

- **Institute for Cognitive Science Studies (Internship)** — Pardis, Iran
  Signal Processing Engineer in Neural Data Acquisition Lab — *June. 2017 - Sept. 2017*
  - Under the supervision of Prof. Mohsen Pedram
  - Implemented data-driven approaches for fNIRS neural data processing

Teaching

Head Teaching Assistant for **Visual Computing 2** Course	Spring 2024
Head Teaching Assistant for **Visual Computing 1** Course	Fall 2023
Head Teaching Assistant for **Computational Data Science** Course	Summer 2023
Head Teaching Assistant for **Visual Computing 2** Course	Spring 2023
Head Teaching Assistant for **Visual Computing 1** Course	Fall 2022
Head Teaching Assistant for **Visual Computing 2** Course	Spring 2022
Head Teaching Assistant for **Neural Networks** Course	Spring 2020
Lecturer for **Fundamentals of Reinforcement Learning** Workshop	Summer 2019
Lecturer for **Fundamentals of Image Processing** Workshop	Summer 2019
Head Teaching Assistant for **Artificial Intelligence** Course	Spring 2019
Head Teaching Assistant for **Signals and Systems** Course	Spring 2019
Head Teaching Assistant for **MicroProcessors Design** Course	Spring 2029
Lecturer for **Fundamentals of Tensorflow** Workshop	Fall 2018
Teaching Assistant for **Data Mining** Course	Fall 2018
Teaching Assistant for **Artificial Intelligence** Course	Fall 2018
Teaching Assistant for **Signals and Systems** Course	Fall 2018
Teaching Assistant for **Microprocessors Design** Course	Fall 2018
Teaching Assistant for **Signals and Systems** Course	Fall 2017
Teaching Assistant for **Microprocessors Design** Course	Fall 2017
Head Teaching Assistant for **Electronic Circuits** Course	Spring 2017
Head Teaching Assistant for **Advanced Engineering Mathematics** Course	Fall 2016
Teaching Assistant for **Electronic Circuits** Course	Spring 2016
Teaching Assistant for **Logic Circuits** Course	Fall 2015