Amir Mohammad Kharazi

Curriculum Vitae

Interests

- Deep Learning
- Computer Vision
- Transformers/ViTs
- Tensors
- Artificial Intelligence
- Cognitive Science
- Generative AI
- Optimization

Education

2013–2017 **High School Diploma**, *NODET: National Organization for Development of Exceptional Talents* , Karaj, *GPA – 3.6/4*.

2017–2022 **Bachelor of Science**, *AUT: AmirKabir University of Technology*, Tehran, *GPA – 3.57/4*, Computer Science.

2022–now **Master of Science**, *TMU: Tarbiat Modares University*, Tehran, *GPA – 3.92/4*, Computer Science, Ranked 1st.

Masters Thesis

Title *Investigation of Tensor Methods in Vision Transformers*

Supervisors Professor Mansoor Rezghi

Description Tensor methods can be used to not only reduce the required number of parameters for a model but also enhance or maintain the accuracy while preserving the multi-modal structure of data. In this Thesis, we explore the various tensor methods and decompositions that could be used on ViTs.

Computer skills

Basic C++, C#, R, Linux

Intermediate Java, C, HTML, CSS, JS, WordPress, Microsoft Office, Microsoft Windows, Git, OracleDB, PostgreSQL

Advanced LaTeX, python, PyTorch, NetworkX, Torchvision, Torch_geometric

Experience

Teacher Assistance

2017 **Data Mining Course**, AUT.

Developed and prepared teaching content materials for the course, provided assistance in online course projects, preparing digital content for students.

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https://amkharazi.github.io/

2022 **Machine Learning Course**, TMU.
Dedicated supporting and guidance for students, preparing homework and project materials, assistance in class evaluation and grading, providing teaching content materials.

2023 **Machine Learning Course**, TMU.
Dedicated supporting and guidance for students, preparing homework and project materials, assistance in class evaluation and grading, providing teaching content materials.

2024 **Deep Learning Course**, TMU.
Dedicated supporting and guidance for students, preparing homework and project materials, assistance in class evaluation and grading, providing teaching content materials.

2024 **Special Topics in AI Course**, TMU.
Dedicated supporting and guidance for students, preparing homework and project materials, assistance in class evaluation and grading, providing teaching content materials.

2024 **Deep Learning Course**, Neuromatch Academy.
Candidate - Status: Applied

2024 **Computational Neuroscience Course**, Neuromatch Academy.
Candidate - Status: Applied

Research Assistance

2024 **DeepTen Lab**, TMU.
Active member of DeepTen Lab at TMU

Awards

2017 AmirKabir University of Technology Scholarship – waived tuition B.Sc

2022 Tarbiat Modares University Scholarship – waived tuition M.Sc

2023 Top ranked student – Tarbiat Modares University, Computer Science Department

Publications

2024 **SATURN: Splitting Approach on Tensorized Ubiquitous Regression Networks**.
due to approaching computer science conference deadlines, pre-print is not yet available publicly.
Using two intellectual reshaping schemes, we present newer tensorized regression networks that not only require fewer parameters than the overly used fully connected layers but also preserve the accuracy.

2024 **TAVERN: Tensor Adaptation in Vision-transformers, Evolution of Regression Networks** .
due to approaching computer science conference deadlines, pre-print is not yet available publicly.
By adapting tensor methods to vision transformers, we reduced the required number of parameters for a vit by a great factor. We combined methods of previously worked tensor regression networks and our newer approach to maintain the accuracy while reducing the required number of parameters.

Languages

Persian/Farsi **Mothertongue**

English **Advanced** *IELTS 7.5*

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