SEYED AMIR KASAEI

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EDUCATION

- **Master of Science, Computer Software Engineering** (Sep 2023 – Present)
  Sharif University of Technology
  GPA:4/4 (18.5/20) - **with focus on Computer Vision**

- **Bachelor of Science, Computer Engineering** (Sep 2019 – Aug 2023)
  University of Guilan
  GPA:3.98/4 (19.58/20) - **Ranked 1st**

HONORS & AWARDS

- M.Sc of Software Engineering **Admission** at **Sharif University of Technology** Sep 2023
  as an **Exceptional Talented Student**

- **Ranked 1st** among B.Sc. Computer Engineering Students Sep 2019 – Aug 2023

RESEARCH INTERESTS

- Machine Learning, Deep Learning, Computer Vision, **Compositional Generation**, Text-to-Image Generation, Medical Image Analysis

EXPERIENCES

- **Research Assistant**
  Sep 2023 - Present
  RIML Lab (Sharif University of Technology)
  Supervisor: Dr. M H Rohban
  Compositional Generation

- **Research Assistant**
  Sep 2022 - Aug 2023
  Univeristy of Guilan
  Supervisor: Dr. S A Mirroshandel
  Medical Image Analysis

- **Teaching Assistant of Intelligent Analysis of Biomedical Images**
  Sep 2024 - Jan 2025
  Sharif University of Technology
  Instructor: Dr. M H Rohban
  Designing and Grading Assignments and Projects

- **Teaching Assistant of Artificial Intelligence and Expert Systems**
  Sep 2022 - Jan 2023
  Univeristy of Guilan
  Instructor: Dr. Yasaman Boreshban
  Designing and Grading Assignments and Projects, Problem Solving Classes

SELECTED ACCOMPLISHED PROJECTS - (Other Projects on Github)

- **CT-scan Image Segmentation using 3D-UNet** - Github repository
  - 3D-UNet model is implemented to segment liver in CT-scan images and compared to 2D-UNet
  - Scikit-learn, Torch, Numpy, Matplotlib, OpenCV

- **Breast Tumor Classification using GNN** - Github repository
  - GNN model is implemented to classify Breast Tumor on BRACS dataset
  - Histocartography, DGL, Torch Geometric, Torchvision, Scikit-learn, Torch, Numpy, Matplotlib, OpenCV, Pandas

- **MAML on Human Sperm Abnormality Detection** - Github repository
  - We used MAML model to detected human sperm abnormality on its head, vacoule, acrosome, and tail.
  - In this project we used **Learn2learn, Scikit-learn, PyTorch, Numpy, Matplotlib, seaborn**.

- **Arabic Broken Plurals** - Github repository
  - We implemented a character based Machine Translation model to predict plural form of arabic words
  - BERT Embedding, Pandas, Scikit-learn, Keras, Tensorflow, Numpy
  - This project was done as a partnership with Dr. SA Mirroshandel for **Stony Brook University**

- **Multi-Class Weather Classification** - Github repository
  - Simple CNN, Resnet And Inception Net are all implemented an d compared for image classification
  - Pandas, Scikit-learn, Keras, Tensorflow, Numpy, Matplotlib

- **An Odd Music Generator** - Github repository
  - We implemented a Denoising Auto Encoder model to denoise the input song, a Deep Neural Network to recognize notes in the input song and a Language model to predict the next note of the song.
  - Scikit-learn, Keras, Tensorflow, Numpy, Librosa, Matplotlib

NOTABLE COURSES

Master of Science

- Intelligent Analysis of Biomedical Images - 20 / 20
- Deep Learning - 16.7 / 20
- Algorithmic Game Theory - 19.5 / 20
- Massive Data Algorithms - 19.5 / 20
- Randomized Algorithms - 16.5 / 20
- Software Engineering - 18.5 / 20

Bachelor of Science

- Fundamental of Data Mining - 20 / 20
- Introduction to Deep Learning - 19.8 / 20
- Introduction to Machine Learning - 18.16 / 20
- Fundamental of Language and Speech Processing - 20 / 20
- Artificial Intelligence and Expert Systems - 20 / 20
- Signals and Systems - 19.5 / 20
- Engineering Mathematics - 19.75 / 20
- Differential Equations - 18.75 / 20
- Discrete Mathematics - 19.75 / 20

LICENSES & CERTIFICATIONS

- **Deep Learning Specialization** - Credential
  DeepLearning.AI - Aug 2022
  Instructor: Andrew Ng
- **Funds. of Reinforcement Learning** - Credential
  University of Alberta - Aug 2022
  Instructor: Martha and Adam White
- **Crash Course on Python** -Credential
  Google - Aug 2022

- **Machine Learning Specialization** - Credential
  DeepLearning.AI - Sep 2022
  Instructor: Andrew Ng
- **IELTS** - Certificate
  IDP - Sep 2023
  Overall: 6.5
  Listening: 7, Reading: 6.5, Writing: 6, Speaking: 6

SKILLS

- **Programming Language :** Python, Java, C++
- **Data Visualization :** Matplotlib, Panadas, Seaborn, OpenCV, Wandb
- **Machine Learning & Deep Learning :** Scikit-learn, Keras, Tensorflow, Pytorch, Learn2learn, Numpy
- **Computer Vision :** Diffusion, Text-to-Image Generation, Multimodal Models
- **Natural Language Processing :** NLTK, Hazm, BERT, Language Models, Text Classification
- **Collaboration and Communication Tools :** Slack, GitHub, Skype, Discord
- **Web development :** HTML, CSS, Bootstrap, jQuery, PHP, MySQL

REFERENCES

Dr. Mohammad Hossein Rohban   *Sharif University of Technology*
rohan@sharif.edu   *Google Scholar*
Associate Professor of Computer Engineering, Sharif University of Technology, Tehran, Iran

Dr. Mohammad Amin Fazli   *Sharif University of Technology*
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Associate Professor of Computer Engineering, Sharif University of Technology, Tehran, Iran