Mojtaba Nafez

✉ mojtabanafez96@gmail.com | G Scholar | in LinkedIn | 🌐 Website

RESEARCH INTERESTS

Explainable and Responsible Machine Learning	Computer Vision	Trustworthy & Safe AI
Contrastive Learning	Out-of-Distribution Detection	Anomaly Detection

EDUCATION

Sharif University of Technology   Iran, Tehran
M.Sc. in Computer Engineering / Software Engineering   *Aug. 2022 – Present*

- GPA: 4/4 (18.86/20)
- Thesis: Robust anomaly detection through from-scratch training under adversarial attacks
- Advisor: Prof. Mohammad Hossein Rohban

Iran University of Science & Technology   Iran, Tehran
B.Sc. in Computer Engineering   *Sep. 2017 – Feb 2022*

- GPA: 3.95/4 (18.37/20)
- Thesis: Weakly-supervised defect detection using deep neural networks
- Advisor: Prof. Mohammad Reza Mohammadi

PUBLICATIONS

Universal Novelty Detection Through Adaptive Contrastive Learning   **Accepted**
*Hossein Mirzaei, **Mojtaba Nafez**, Mohammad Azizmalayeri, Jafar Habibi, Mohammad Jafari, Mohammad Bagher Soltani, Mohammad Sabokrou, Mohammad Hossein Rohban* **CVPR 2024**

Universal Novelty Detection Through Adaptive Contrastive Learning   **Accepted**
*Hossein Mirzaei, **Mojtaba Nafez**, Mohammad Azizmalayeri, Jafar Habibi, Mohammad Jafari, Mohammad Bagher Soltani, Mohammad Sabokrou, Mohammad Hossein Rohban* **CVPR 2024**

Universal Novelty Detection Through Adaptive Contrastive Learning   **Accepted**
*Hossein Mirzaei, **Mojtaba Nafez**, Mohammad Azizmalayeri, Jafar Habibi, Mohammad Jafari, Mohammad Bagher Soltani, Mohammad Sabokrou, Mohammad Hossein Rohban* **CVPR 2024**

Universal Novelty Detection Through Adaptive Contrastive Learning   **Accepted**
*Hossein Mirzaei, **Mojtaba Nafez**, Mohammad Azizmalayeri, Jafar Habibi, Mohammad Jafari, Mohammad Bagher Soltani, Mohammad Sabokrou, Mohammad Hossein Rohban* **CVPR 2024**

Universal Novelty Detection Through Adaptive Contrastive Learning   **Accepted**
*Hossein Mirzaei, **Mojtaba Nafez**, Mohammad Azizmalayeri, Jafar Habibi, Mohammad Jafari, Mohammad Bagher Soltani, Mohammad Sabokrou, Mohammad Hossein Rohban* **CVPR 2024**

EXPERIENCE

Research Assistant   Oct 2022 – Present
RIML Lab, Sharif University of Technology   *Iran, Tehran*

- Machine Learning, Computer Vision, Deep Learning, Explainable and Responsible AI, Anomaly Detection, Adversarial Robustness, Out of Distribution Detection, Contrastive Learning
- Conducted research under the supervision of Prof. Rohban, and in collaboration with Prof. Solaymani and Prof. Sabokrou
- Contributed to research papers submitted to CVPR2024, NeurIP2024, and ICLR2024, highlighting the lab's interdisciplinary research activities
- Gained experience in the research paper process, collaboration, and mentoring, while significantly enhancing my technical skills and knowledge in anomaly detection and adversarial robustness

Teaching Assistant   Sep 2019 – Present
Sharif University of Technology - Iran University of Science & Technology   *Iran, Tehran*

- Deep Learning, Artificial intelligent(Head), Fundamental Programming, Compiler Design, Operating System

- Led and managed a team of over 40 teaching assistants, including responsibilities in teaching, designing homework, grading, and mentoring

Machine Learning Internship
Jul 2021 – Jan 2022

AIMedic
Iran, Tehran

- Explored and developed deep learning-based 2D and 3D semantic segmentation methods using PyTorch and Keras
- Developed an MRI brain tumor 3D segmentation system
- Developed a cell segmentation system and a semantic segmentation-based skull stripping method

Undergraduate Research Assistant
Jul 2021 – May 2022

CVLab IUST, Iran University of Science & Technology
Iran, Tehran

- Researched and developed a tile surface defect detection system using a weakly-supervised approach with the Keras library
- Conducted research under the supervision of Prof. Mohammad Reza Mohammadi

HIGHLIGHTED COURSES

Deep Learning (19.7/20), Computer Vision (20.0/20), Data Mining (20.0/20), Natural Language Processing (19.8/20), Computational Intelligence (19/20), Artificial intelligence (19.11/20), Digital Signal Processing (19.25/20), Operating System (20.0/20), Data Structures (20/20), Advanced Programming (19.5/20), Software Engineer 1(20.0/20), Wireless Networks (20.0/20), Internet of Things (20.0/20), Compiler Design (19.0/20), Algorithm on Graph Coursera (Audited), Algorithm on String Coursera (Audited)

SKILLS

Programming Languages: Python, Java, C/C++, LATEX
Machine Learning Tools: PyTorch, TensorFlow, Keras, OpenCV, NumPy, pandas, scikit
Frameworks & Developer Tools: Linux, Django, Docker, VS Code, Git, ReactJS
Languages: English (Fluent), Persian (Native)

REFERENCES

Prof. Mohammad Hossein Rohban: rohban@sharif.edu

Prof. Mohammad Sabokrou: mohammad.sabokrou@oist.jp

Prof. Mohammad Reza Mohammadi: mrmohammadi@iust.ac.ir