REZA SHIRKAVAND

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RESEARCH INTERESTS

Computer Vision, Efficient Deep Learning, Medical Image Analysis

EDUCATION

Sharif University of Technology *2015 - 2020*
B.Sc in Computer Engineering
Department of Computer Engineering

University of Pittsburgh *2022 - 2023*
M.Sc in Electrical & Computer Engineering
Advisor: Prof. Heng Huang
Research Focus: Graph Machine Learning, Computer Vision, Medical Image Analysis

University of Maryland *2023 - Present*
Ph.D. in Computer Science
Advisor: Prof. Heng Huang
Research Focus: Computer Vision, Efficient Deep Learning, Medical Image Analysis

RESEARCH EXPERIENCE

Dementia Severity Classification under Small Sample Size and Weak Supervision in Thick Slice MRI ArXiv:2103.10056

Incomplete Multimodal Learning for Complex Brain Disorders Prediction ArXiv:2305.16222

Deep Prompt Tuning for Graph Transformers ArXiv:2309.10131

Dynamic Pruning of Diffusion Models Ongoing

PROFESSIONAL EXPERIENCE

Data Scientist Feb 2020 - Dec 2021
Netbina Advertising Agency

Developed and deployed computer vision and natural language processing models to analyze social media and web data. Specifically, developed sentiment analysis models to help crisis management for clients, created topic detection models to identify emerging trends in news articles and tweets related to various industries, built a new multi-class classification model using convolutional neural networks, and implemented object detection models to increase the speed and accuracy of images processing. Utilized Python, as well as machine learning frameworks such as TensorFlow and PyTorch.

TEACHING EXPERIENCE

Project Teaching Assistant, Operating Systems *Fall 2018*
Guided and supported students in understanding and implementing the central concepts of operating systems through the development of a real, working, and simple kernel.

Project Teaching Assistant, Computer Networks *Spring 2019*
Facilitated the design and development of network applications and the implementation of conventional network management and routing protocols for students.

Teaching Assistant, Machine Learning *Fall 2019*
Supported students in gaining theoretical and practical knowledge in machine learning and statistical pattern recognition, covering topics such as supervised learning, Bayesian Networks, learning theory, and reinforcement learning.

Teaching Assistant, Algorithmic Thinking *Spring 2022*
Delivered lectures and supported students in developing the theoretical and practical skills necessary for designing algorithms, e.g. graph traversal, divide and conquer, dynamic programming, randomized algorithm, etc. Conducted mock interviews for students to assess their understanding of algorithm design and simulate real professional interviews.

Teaching Assistant, Systems & Projects Engineering *Summer 2022*
Taught essential topics in systems engineering and project management. Guided students through a real-world project, offering feedback and support as they worked through challenges and developed their skills.

HONORS AND AWARDS

Nationwide University Entrance Exam - Mathematics *2015*
Ranked 14th among 181000 participants

Nationwide University Entrance Exam - Foreign Languages *2015*
Ranked 15th among 7000 participants

SKILLS

Programming Languages	Python, Java, C++, Matlab
Libraries	Pytorch, Tensorflow, Scikit-Learn, Numpy, Django
Languages	English (Fluent) , French (Basic), Persian (Native)