

REZA SHIRKAVAND

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RESEARCH INTERESTS

Computer Vision Machine Learning
Graph Machine Learning Medical Image Processing

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, Graph Machine Learning, Medical Image Analysis

PUBLICATIONS

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

Prediction of Post-Operative Renal and Pulmonary Complications Using Transformers ArXiv:2306.00698

Deep Prompt Tuning for Graph Transformers ArXiv:2309.10131

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)

Hobbies

Hiking , Biking, Gaming, Soccer