

Fatemeh Sarsharteherani

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Research Interests

- Machine learning and Deep learning
- Data Science
- Human-Robot interaction
- Natural Language Processing
- Multi-modal learning
- Artificial Intelligence

Education

- **Virginia Tech**
Ph.D. Student in Computer Science (GPA: 3.92/4.00)
Expected Graduation: Aug. 2025
Advisor: Dr. Denis Gracanin
- **Sharif University of Technology**
M.Sc. in Architecture (GPA: 3.75/4.00)
Graduation: Aug. 2022
Advisor: Dr. Ali Movaghar
- **Tehran University**
B.Sc. in Engineering Physics (GPA: 3.19/4.00)
Graduation: Sep, 2019
Advisor: Dr. Farrokh Sarreshtedari

REFERENCES

Dr. Denis Gracanin (gracanin@vt.edu)
Dr. Ismini Lourentzou (ilourentzou@vt.edu)
Dr. Ali Movaghar (movaghar@sharif.edu)

Work Experience

- **Graduate Research Assistant (Grad Staff)** Sep. 1, 2019 - Present
 - Research-related responsibilities:
 - 1) Identifying key problems of significant importance in the field of study, and accordingly formulating research problems.
 - 2) Gathering research data including literature review, evaluation of potential approaches and solutions, obtaining real-world/simulation-based data for research problems.
 - 3) Problem solving, analyses of findings and evaluation of results.
 - 4) Implementations of above-mentioned solutions, as needed.
 - 5) Preparation of reports and manuscripts.
- **Graduate Teaching Assistant (Grad Staff)** Sep. 1, 2019 - present
 - Responsibilities as Graduate Teaching Assistant:
 - 1) Assist faculty members with creating course syllabi and developing course plans, classroom instructions, instructor of classes, preparing and grading assignments/exams, record keeping, and obtaining materials needed for classes.

- 2) Prepare presentations for lectures, manage and coordinate multiple course sections and members of the teaching team.
 - 3) Inform students of their performance and grades, and mentor them accordingly.
 - 4) Lead observation/discussion sessions, and meet with students during office hours.
 - 5) Manage tools/platforms for improving course quality, and corresponding with students.
- Note: Duties: “Software Design and Data structure”, “Deep Learning”, “Machine Learning”, “Logic circuits”, “Introduction to Java”, “Logic circuits Laboratory”,

Selected Projects

- Developing a mobile application for iPhone using Swift, to send and receive signals in group discussions and during lectures
- Face mask detection system to detect correctly covered faces with masks (Python)
- Human emotion recognition and face detection (Python)
- Backward Heuristic Search planner with Delta-3 function (Python)
- Implementing a method to build Hidden Markov Model for speech recognition (Python)
- Text to Image and Image to Text, captioning the image and specified objects in the image, generating the image given the text, and detecting objects from an image given the caption. (Python)
- Simulating Percolation and Spanning cluster in a 2D lattice, evaluating Conductivity near the percolation threshold (Python)
- Extracting features from medical images and Recognizing correlations between the images and the clinical data (Matlab)
- Steganography in audio and image (Matlab)
- English-Farsi translator with spelling and grammar check features (C++)
- File compression and decompression (Java)

Other Technical Skills

Programming Languages: Python (TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib, Keras, OpenCV, Natural Language Toolkit (NLTK), Flask, NetworkX), Java, Matlab, C/C++, JavaScript, R, HTML/CSS, SQL, Octave, Raspberry Pi

Source Control Protocols: Git

Operating Systems: Windows, Linux (Ubuntu)

Software/Tools/Databases: PyCharm, IntelliJ Idea, CLion, Eclipse, MS Visual Studio, MySQL

Web Technologies: HTML & CSS, JavaScript

Software Paradigms: Object-Oriented Programming, Functional Programming