

SEYED ARSHAN DALILI

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🌐 arshandalili.github.io 📍 Sharif University of Technology, Tehran, Iran

EDUCATION

- **Bachelor in Computer Engineering** Sep. 2019 - Present
Sharif University of Technology *Tehran, Iran*
- **Diploma of Mathematics** Sep. 2016 - Jun. 2019
Shahid Beheshti School, National Organization for Development of Exceptional Talents (NODET) *Sari, Iran*

UNDER-PREPARATION PUBLICATIONS

- Multimodal Sense Dataset Using WordNet and Text-to-Image Models - *In progress* - *ACL 2023*
- Visual Word Sense Disambiguation (B.Sc. Project) - *In progress* - *SemEval 2023*

HONORS AND AWARDS

- Outstanding GPA among Computer Engineering Students at Sharif University of Technology, 2022.
- Ranked **6th nationwide** among more than **164,000** participant in Iran National University Entrance Exam (Konkour) in Mathematics Branch, 2019.
- Received full scholarship (tuition waiver) from Sharif University of Technology for Bachelor's degree, 2019.
- Participated at Computer National Olympiad, 2018.
- Admitted to National Organization for Development of Exceptional Talents (NODET), $\approx 2\%$ Acceptance Rate, 2013.

RESEARCH INTERESTS

- Natural Language Processing
- Information Retrieval and Extraction
- Knowledge Acquisition
- Artificial Intelligence and Machine Learning

RESEARCH EXPERIENCE

- **Visual Word Sense Disambiguation (B.Sc. Project, Ongoing):**
Supervisor: Prof. Asgari
Working on a model to select the appropriate image for ambiguous words in a given context. Developing models with Transformers and BERT to 1) transform pictures and texts into a same space and 2) bring related pictures and texts that are semantically similar around each other. Also working on using pre-trained models like CLIP to select relevant images from ambiguous textual contexts.
- **Computational Semantics (Ongoing):**
Supervisor: Prof. Asgari
Exploring various methods for understanding the meaning of Natural Language and analyzing methods for enabling multimodal models to comprehend Natural Language. Particularly, work is being done to create a dataset to enable models to learn the semantics of both textual and visual contexts. WordNet and Text-to-Image models will be used to create a dataset of images that correspond to a given meaning of a word.
- **Implemented Credible Early Detection Point model in Pytorch:**
Implemented and published the CED model in Pytorch in order to make it easier to use compared to paper's original old version of Tensorflow. Also, reviewed the mechanism of some fake news detection models such as Early Detection of Fake News on Social Media Through Propagation Path Classification with Recurrent and Convolutional Networks.

TEACHING EXPERIENCE

- **Artificial Intelligence** Sep. 2022 - Present
Instructor: Prof. Rohban
Sharif University of Technology
Designing practical assignments about local search, reviewing assignments about continuous optimization, and grading assignments.
- **Modern Information Retrieval** Sep. 2022 - Present
Instructor: Prof. Beigy
Sharif University of Technology
Creating practical coursework, supervising, and grading assignments
- **Computer Architecture** Feb. 2022 - Sep. 2022
Instructor: Prof. Sarbazi-Azad
Sharif University of Technology
Grading assignments, mid-term, and final and writing solutions for mid-term and final.
- **Computer Structure and Language** Sep. 2021 - Feb. 2022
Instructor: Prof. Sarbazi-Azad
Sharif University of Technology
Designing projects with practical questions in IBM System/360, Intel 8086, and MIPS processor.
- **Fundamentals of Electrical and Electronic Circuits** Sep. 2021 - Feb. 2022
Instructor: Prof. Hemmatyar
Sharif University of Technology
Thevenin-Norton Equivalencies and Laplace Transform theoretical assignments and grading.
- **Advanced Programming** Sep. 2020 - Feb. 2021
Instructor: Dr. Salmani
Sharif University of Technology
Grading practical coursework and project in Java language.

WORK EXPERIENCE

- **Advisor, National University Entrance Exam (Konkour)** Jun. 2020 - Feb. 2021
Various Institutions and Private
Sari, Iran
- **Tutoring, High School Mathematics** Jun. 2020 - Feb. 2021
Various Institutions and Private
Sari, Iran
- **Tutoring, High School Physics** Jun. 2020 - Feb. 2021
Various Institutions and Private
Sari, Iran

SELECTED COURSE PROJECTS

- **Search engine for crawled news using Boolean, TF-IDF, FastText, Transformers, and Elasticsearch models and classification, clustering, and link analysis for crawled news:**
Modern Information Retrieval - Supervisor: Prof. Asgari - Spring 2022
- **Create a model to detect numerical values and physical quantities in Persian texts with the ability to convert physical quantities:**
Modern Information Retrieval- Supervisor: Prof. Asgari - Spring 2022
- **Training an agent to play Atari using Reinforcement Learning:**
Artificial Intelligence - Supervisor: Prof. Rohban - Fall 2021
- **Autoencoder for generating next handwritten digit and MNIST classifier:**
Artificial Intelligence - Supervisor: Prof. Rohban - Fall 2021
- **Simulation of a model that represents a discrete-event system and its queue status:**
Computer Simulation - Supervisor: Prof. Safaei - Fall 2021
- **Use Principal Component Analysis (PCA) to keep important information of images:**
Linear Algebra - Supervisor: Dr. Hossein Ghorban - Spring 2021
- **Introduction to Stanza model and reviewing its structure:**
Numerical Computations - Supervisor: Dr. Baharifard - Spring 2021

RELEVANT COURSES

Artificial Intelligence	20.0/20.0
Modern Information Retrieval	20.0/20.0
Linear Algebra	19.6/20.0
Data Structures and Algorithms	20.0/20.0
Design Algorithms	19.8/20.0
Scientific and Technical Presentation	19.4/20.0
Numerical Computations	20.0/20.0
Computer Simulation	20.0/20.0
System Analysis and Design	19.0/20.0
Game Theory	20.0/20.0

SKILLS SUMMARY

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- **Programming Languages:** Python, C, C++, Java, SQL, Verilog, Assembly
 - **Packages and Applications:** Pytorch, Tensorflow, Sklearn, NLTK, Scipy, Numpy, Pandas, Django, Modelsim, Proteus Design Suite
 - **Tools:** Git, Docker, Jira, PostgreSQL, L^AT_EX

LANGUAGE PROFICIENCY

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- **Farsi:** Native
 - **English:** Fluent

EXTRACURRICULAR ACTIVITIES

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- Loves running / Playing video games / Astronomy (Former member of Sari Astronomy Group) / Movie buff / Photography / Exploring new places (Climbing,...)