**Sina Ehsani** - sinaehsani@email.arizona.edu - (+1) 310 874 6216
github.com/sina-ehsani - linkedin.com/in/sina-ehsani - sina-ehsani.github.io

## EDUCATION

**University of Arizona**
Master of Science in Computer Science *2022*
Doctor of Philosophy (PhD) in Systems and Industrial Engineering *Dec 2022*
Master of Science in Systems and Industrial Engineering *2018*

**Isfahan University of Technology**
Bachelor of Science in Industrial Engineering *2015*

## TECHNICAL STRENGTHS

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|---|---|
| **Computer Programming** | Python, Java, Scala , C++, C, PERL, R, Prolog, SQL, HTML, CSS, JavaScript |
| **Software & Tools** | Docker, MlFlow, WandB, Unix, Git, Scikit-learn, NLTK, spaCy, LaTeX, Jira |
| **Deep Learning Frameworks** | PyTorch, HuggingFace, TensorFlow, DyNet, Keras, PyTorch Lightning |

## RELEVANT COURSES

Design and Analysis of Algorithms, Algorithms for Natural Language Processing, Neural Networks, Applications of Machine Learning, Principles of Machine Learning, Artificial Intelligence for Health and Medicine, Text Retrieval And Web Search, Computational Linguistics, Software Engineering, Advanced Operating Systems, Engineering Statistics, Fundamentals of Optimization, Stochastic Modeling, Applied Cyberinfrastruc, Enterprise Data Management

## WORK EXPERIENCE

**Machine Learning Research Intern, Truveta** *May 2022 - Present*

· Building and developing NLP models on medical text data to further the company's mission of Saving Lives with Data.

**Graduate Research Assistant, University of Arizona - Question Answering System** *August 2019 - Present*

· Using Computer Vision (CV) approaches to assist Natural Language Processing (NLP) tasks, such as automatic image augmentation from the web to improve the results of a textual question answering problem.
· Transformer networks (like BERT), object detection models (like Faster RCNN), and CNN models are some of the building blocks used in the design of this multimodal deep learning network

**Data Science Research Intern, RedShred** *March 2021 - August 2021, Jan 2022 - May 2022*

· Developed and deployed a start-to-finish plot-processing approach on the RedShred API, allowing for the automatic read and processing of various types of plots found in PDF documents. The method was composed of numerous components, including object detection models, text extraction and identification. The model accurately identified the data from plots 69.12 percent of the time, coming close to SOTA.
· Developed and trained transformer-based segmentation and object detection methods for document understanding using HuggingFace framework.

**Teaching Assistant, University of Arizona** *January 2019 - Jan 2021*

· Introduction to Engineering Probability and Statistics, Survey of Optimization Methods, and Statistical Quality Control.

**Graduate Research Assistant, University of Arizona - Machine Dialog System** *May 2018 - August 2019*

· Natural language processing techniques were used to develop a smartphone app that can hold a meaningful conversation with the user by simulating human speech behaviors. The project's data was based on real-world events such as personal life events, relationships, experiences, as well as desires, hopes, and dreams.

**Graduate Research Assistant, University of Arizona - ML for Health Care** *August 2016 - May 2018*

· Various unsupervised machine learning approaches were studied in order to uncover hidden relationships between physiological characteristics of patients with traumatic brain injury.

**Student Consultant, Tucson International Airport** *August 2016 - January 2017*

· Conducted an economic impact analysis and created a business plan to improve Tucson Airport Authority's business processes and boost the city's economic growth.

## PROJECTS

**Music Generator** *January 2020 - May 2020*

· Deep neural networks were used to create a music creation tool that automatically generates, extends, and stylizes imported MIDI music compositions.

**Mental State of Tweeter** *August 2019 - December 2019*

· Recurrent neural networks (e.g. GRU, LSTM) were used to create a multi-label classification model. The designed model achieved top ten in the CodaLab competition.

**Recognizing Textual Entailment on SNLI Corpus** *January 2019 - May 2019*

· On the Stanford Natural Language Inference (SNLI) challenge, a straightforward but effective Naive Bayes machine learning approach was used, and it produced results that were competitive with those of neural network models.

**Implementation of Log-File System on Virtual Flash Drive** *January 2019 - May 2019*

· A Log-Structured File System (in Linux) was implemented on a virtual flash drive using C programming language.

**Domain Adaptation in Reading Comprehension** *August 2018 - December 2018*

· Applied Domain Adaptation, LSTM, BiRNN, GRU, FFN, and Attention unites with PyTorch on the SQUAD Question Answering task.

**Programming Distribution Maps for Butterfly Species** *August 2017 - December 2017*

· Completed a collaborative project with 12 team members to collect and visualize the distribution and monthly migration maps for 700 North American Butterfly species in an agile context.
· Used University of Arizona High-Performance Computing (HPC) servers, Docker, and Singularity Containers.

**Design and Implementation of a Web-Based Database Application** *August 2017 - December 2017*

· Worked on the front-end and back-end of a database system that can assist a school class management with its day-to-day operations and decision-making.
· The database system was built using Oracle SQL Server and web-based development tools.

## PROFESSIONAL AND PERSONAL DEVELOPMENTS

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|---|---|
| Manager of the international students' sports activities club (ICAT) at the University of Arizona. | Current |
| Manager of UA's Computational Medicine and Informatics for Neurological Health (COM-IN) Lab. | 2018 |
| Completed Six Sigma Green Belt training and Primavera Project Management certification. | 2016 |
| Second place in the state tournament for the college basketball championship, Isfahan, IR. | 2014 |