

# Sabrina Mokhtari

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## EDUCATION

- University of Waterloo** Ontario, Canada  
• *MMath in Computer Science* September 2022 - NOW  
*Supervisor: Gautam Kamath*
- Sharif University of Technology** Tehran, Iran  
• *Bachelor of Science in Computer Engineering; CGPA: 18.40/20* September 2017 - July 2022  
*Related Courses:* Machine Learning (19.3/20), Artificial Intelligence(20/20), Linear Algebra (19.5/20), Data Structures and Algorithm(17.9/20), Modern Information Retrieval (17.7/20), Design of Algorithm (20/20), Data Base (19.2/20), Computer Network(19.9/20), Programming Languages (20/20), System Analysis & Design (19.5/20), Software Engineering (20/20)

## ACHIEVEMENTS

- **Ranked among top 0.1% participants in the Iranian National Universities Entrance Exam:** September 2017
- **Vector Scholarship in Artificial Intelligence Recipient:** April 2022

## RESEARCH/WORK EXPERIENCE

- Robust and Interpretable Deep Learning Laboratory** Sharif University of Technology  
• *Research Assistant Under the Supervision of Prof. Mohammad Hossein Rohban* June 2021 - September 2022
  - Working on various techniques to train trustworthy vision transformers that are not readily affected by malicious perturbations.
- Wizeanalytics Startup** Sharif University of Technology  
• *R&D and Data Engineer Position Under the Supervision of Prof. Hamid R. Rabiee* August 2020 - September 2021
  - Worked on an AI-driven big data processing platform that establishes methods on the data storage layer and distributed big data processing to facilitate predictive analytics.
  - Designed and implemented a comprehensive preprocessing pipeline. Developed several text processing features such as text spell correction, text normalization, and string obfuscation.
  - Enabled the platform to work with and analyze real-time data streaming by connecting the system to Apache Kafka
- Intelligent Information Solutions Center** Sharif University of Technology  
• *Software Developer Under the Supervision of Prof. Jafar Habibi* June 2019 - September 2019
  - Worked on MotoShub, a website that helps create domestic social networks. It allows companies, academic societies, and other social groups to create custom social networks to serve as alternatives to popular global platforms.
  - Worked with the software maintenance team. Improved the system's functionality by designing new features, and upgrading and repairing the software when needed.

## SELECTED COURSE PROJECTS

- **Sarcasm detection, Machine Learning Course (Python/ Pytorch/ Keras):** Worked on data containing 1.3 million Sarcastic comments from Reddit. Tested various NLP methods to predict sarcasm comments. (June 2020)
- **Admission to the ICU Prediction, Machine Learning Course (Python):** Implemented a complete life-cycle of data preparation, model creation, and evaluation. Given the recorded clinical data of Covid-19 patients, we wanted to test if it was feasible to predict which patients go to the ICU. (May 2020)
- **Simple ResNet Implementation, Machine Learning Course (Pytorch):** Implemented a Residual Network from scratch to detect pneumonia in patients using chest x-rays. (June 2020)
- **Information Retrieval system Implementation, Advanced Information Retrieval Course(Python):** Implemented an Information Retrieval system on text-based data in Persian and English. Utilized classification methods, such as Naive Bayes, SVM, Random Forest, and KNN. Worked on various techniques of natural language processing, including word2vec. (December 2020)
- **Conditional Independence Detection in a Given Bayesian Network, Artificial Intelligence Course (Python):** Implemented a code that could specify independence between given evidence variables in a specific Bayes Net. (October 2019)
- **Sudoku Game Solver, Artificial Intelligence Course (Python):** Implemented a Sudoku solver using Constraint Satisfaction Problem (CSP) with AC-3 Algorithm. (October 2019)

## ACADEMIC SERVICES

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- **Member of the Scientific team for the DataDays challenge, Sharif University of Technology:** DataDays is the first and the largest national data scientific competition in Iran, held annually at the Sharif University of Technology. We developed a data-driven challenge around the search logs of torob.com to recommend new products given a raw query. I, with another senior student, was responsible for implementing a baseline for the challenge. (January 2021 - July 2021)
- **Executive Staff at ACM - ICPC, Sharif University of Technology:** ICPC is the largest programming contest among university and college students in the world. The Asian Regional Contest in Iran is hosted by the Sharif University of Technology. I was an executive staff for this event for two consecutive years. I was the event's photographer and also prepared the presentation for the closing ceremony. (October 2018 and October 2019)
- **Executive Staff at the Sharif Artificial Intelligence Challenge, Sharif University of Technology:** This competition is the Iran's Largest AI Competition held at the Sharif University of Technology. I was the event's photographer and prepared the presentation for the closing ceremony. (March 2019)

## TEACHING ASSISTANT EXPERIENCES

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- **Database Design, Prof. Abbas Heydarnoori:** Designed and graded relational database assignment. (September 2021 - February 2021)
- **Linear Algebra, Prof. Hamid Reza Rabiee:** Designed and graded linear functions homework. (September 2021 - February 2021)
- **Artificial Intelligence, Prof. Mohammad Hossein Rohban:** Designed and graded machine learning assignments. Also prepared supplementary materials for deep reinforcement learning. (March 2021 - July 2021)
- **Systems Analysis and Design, Prof. Abbas Heydarnoori:** Designed and graded the course project end midterm exams. (March 2021 - July 2021)
- **Linear Algebra, Prof. Hamid Reza Rabiee:** Prepared the course lectures for Differential Equations, Symmetric and Positive Definite Matrices (September 2020 - December 2020)

## SKILLS SUMMARY

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- **Languages:** Python, Java, C, HTML, CSS, MIPS Assembly
- **Frameworks:** Django, Scikit, Pandas, NumPy, NLTK, SpaCy, Pytorch, Keras
- **Tools:** GIT, Docker, MySQL, Apache Kafka, Power Bi, Tableau, Quartus, ModelSim
- **Platforms:** Windows, Linux, Web, Android, Arduino, Raspberry Pi
- **Soft Skills:** Communication Abilities, Leadership, Public Speaking, Writing, Time Management

## RESEARCH INTERESTS

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- Robustness in Computer Vision and Privacy
- Machine Learning and Deep Learning

## LANGUAGES

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- **Persian:** Native
- **English:** Fluent (TOEFL:109/120 (R: 29, L: 26, S: 30, W: 24))
- **Arabic:** Beginner

## OTHER ACTIVITIES

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- Horseback riding/ Show jumping (7+ Years)
- Member of the Sharif University Mountaineering Club
- Basketball playing