Amirhossein Mahmoudi

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Education

Sharif University of Technology Sep. 2019 - Present
Bachelor of Science in Computer Science *Current GPA: 3.5/4.0*

Selected Courses:

- Machine Learning *(Classical Models, Deep Neural Networks, Convolutional Neural Networks, Sequence Processing Models)*
- Statistical Learning *(Classical Machine Learning, Mathematical Foundations of Machine Learning)*
- Introduction to Bioinformatics *(Gene Expression, De Novo Assembly, Phylogenetic trees, Epigenetics, Markov Models)*
- Big Data Engineering *(MapReduce, Spark, Hadoop, Kafka, Cassandra, Docker)*
- Numerical Analysis 2 *(Linear and Nonlinear Systems, Iterative Techniques, Initial-Value and Boundary-Value Problems)*
- Advanced Programming *(Object Orientation, Generic, Graphic, Concurrency, Reflection, Network)*
- Probability and Its Applications
- Data Structures
- Design Algorithms
- Linear Algebra

Research Interest

- Machine Learning
- Deep Learning
- Data Science
- Computational Biology
- Computer-Aided Medical Procedures
- Optimization

Research Experience and Projects

Transcriptome-Based Fluxomics Reconstruction with a Novel Deep Learning Approach
Currently in progress as bachelor project *Supervisor: Dr. Mojtaba Tefagh*

- Applying implicit deep learning and convex optimization layers to infer metabolic fluxes from gene expression data

WE (*Github*)
The final project for advanced programming course *Supervisor: Mojtaba Ostovari*

- Developed a Java-based social app with JavaFX and Hibernate ORM, featuring messaging and posting

Arkanoid
Homework for Advanced Programming Course *Supervisor: Mojtaba Ostovari*

- Implemented the classic Arkanoid game using Java Swing

Sea Battle
Homework for Advanced Programming Course *Supervisor: Mojtaba Ostovari*

- Built a JavaFX and Socket-based game of Sea Battle in Java

Dinning Philosophers Simulator
Homework for Big Data Engineering Course *Supervisor: Abolfazl Taheri*

- Created a simulation of the dining philosophers problem using Java, JavaFX, and socket

Breast Cancer Prediction (*Github*)
Homework for Machine Learning Course *Supervisor: Dr. Ali Sharifi Zarchi*

- Applying machine learning models to estimate survival outcomes of breast cancer patients

Teaching Experience

Machine Learning | *Teaching Assistant* Jan. 2023 - Aug. 2023
Lecturing and designing homework (Github) *Supervisor: Dr. Mahdi Sharifzadeh*

Advanced Programming with Java | *Teaching Assistant* Jan. 2023 - Aug. 2023
Designing course project (Github) *Supervisor: Dr. Hossein Boomari*

Basics for Programming with C | *Teaching Assistant* Jan. 2021 - Aug. 2021
Designing course homework *Supervisor: Dr. Marjan Nikbin*

Volunteer Experience

Gamein | *Graphic Design Manager* May 2022 - Apr. 2023
Biggest student event in Iran around supply chain simulation

Winter Seminar Series | *Graphic Designer* Feb. 2023 - Mar. 2023
Annual events including seminars about advanced topics of computer science with the presence of prominent professors

Sharif Visual Arts Club | *Advertising Manager, Website Manager* Oct. 2020 - Present
Cool university club centered around visual arts

Sharif Poetry and Literature Club | *Member* Sep. 2019 - Present
University club to share and develop Persian poetry skills

Hamband Scientific Society | *Graphic Designer* Aug. 2022 - Present
Scientific Society of Math Department at Sharif University of Technology

Skills

Programming Languages: C, Java, Python, R, Scala, HTML/CSS,
Tools: Git/GitHub, Docker, Unix Shell, SQL, Spark, MongoDB
Frameworks: React, WordPress, Spring, Hibernate ORM
Libraries: TensorFlow, PyTorch, Scikit-Learn, Keras, Pandas
Soft Skills: Scrum, Agile Project Management, Team Leadership, Project Planning, Presentation

Languages

Persian: Native/Bilingual
Kurmanji (Northern Kurdish): Native/Bilingual
English: Professional working proficiency

Hobbies and Interests

- Writing poem in Persian
- Drawing portrait
- Coordinating English free discussion sessions at the local language institute
- Amatur volleyball player (Member of the volleyball team in the Math Department)

References, Further information, and Proofs are available upon Request.