

# Soheil Hemmat

Date of Birth: June 20<sup>th</sup> 2004 | Nationality: Iran

Contact: [Email](#) | [Website](#) | [LinkedIn](#)

## EDUCATION

### B.Sc. in Computer Science

Shahed University, Tehran, Iran

Ranked **1<sup>st</sup>** in Cohort

GPA (Last 2 years): **18.92 / 20 or 3.92/4**

GPA (Overall): **18.2 / 20 or 3.66/4**

B.Sc. Thesis (Ongoing): “*Mostar index applied to some new graphs*” Supervisor: [Dr. Ardesir Dolati](#)

2022 – Present

## RESEARCH INTERESTS

- HCI
- Wearables
- Computer Vision
- AI
- VR/XR/AR
- Optimization

## SELECTED RESEARCH AND ACADEMIC PROJECTS

- 2025–2026 ■ B.Sc. Thesis — “*Mostar index applied to some new graphs*” (*Under Revision*) —Supervisor: [Dr. Dolati](#)  
*Preparing submission to Communications in Combinatorics and Optimization (CCO)(co-first author)*
  - Investigating the Mostar index for kite, wheel, and inflated graphs; proving formulas
  - Implementing computational validation in Python and releasing reproducible code and figures
  - Writing the thesis in LaTeX, presenting findings, and refining proofs based on feedback
- 2025 ■ Research on AI Regulation in Europe — Supervisor: Dr. Hajiani (*Narrative ; submitted; First Author*)  
*Submitted to the Journal of Technology Development Management (JTDM)*
  - Synthesized EU AI Act governance, GDPR interfaces, and FRIA obligations
  - Extracted policy takeaways and insights relevant for AI regulation frameworks
- 2025 ■ AI Capstone — Recommender Systems (ALS, SVD, LightGCN), MovieLens-100K ([GitHub](#)):
  - Implemented & benchmarked models in Python/PyTorch
  - built evaluation pipeline (RMSE/MAE/P@5/R@5) and reproducible [code](#)
- 2024 ■ Research Collaboration on Support Vector Machines — Supervisor: [Dr. Seyed Javadi](#)
  - Collaborated with a team on initial experiments and data analysis for SVM research
- 2024 ■ Two-Way Gödel Mapper:
  - Encoded/decoded register-machine programs via Gödel numbering
- 2024 ■ Designed Client&Server Program by Suckt Programing ([GitHub](#)):
  - Designed and implemented a Client-Server terminal messenger using TCP sockets
  - Implemented asynchronous message handling with multithreading
- 2024 ■ Mini Compiler in C ([GitHub](#)):
  - Built a lexer & LALR(1) parser with operator precedence; handled identifiers/numbers/loops
- 2024 ■ Estimating Functions using Genetic Algorithm ([GitHub](#)):
  - Developed a tree-based genetic algorithm in Python to approximate mathematical functions.
  - Applied the model to predict house prices using MSE for evaluation

## COMPUTER SKILL

Programming Languages: Python, C++, Spss, Latex, MySQL, HTML, CSS, Jupyter

Technical Skills: GitHub, Graphiz, CNC

General: Microsoft Office

## WORKING EXPERIENCE

Spring 2025	<b>Teaching Assistant, Operating Systems</b> (Supervised by <a href="#">Dr. Purbahman</a> ) <ul style="list-style-type: none"><li>• Designed and evaluated Exercises</li><li>• Solved students' problems</li></ul>
Spring 2025	<b>Teaching Assistant, Digital Design</b> (Supervised by <a href="#">Dr. Farhadian</a> ) <ul style="list-style-type: none"><li>• Conducted tutorial sessions</li><li>• Designed and evaluated exercises and circuits</li><li>• Assisted students with problem-solving</li></ul>
Spring 2025	<b>Substitute Lecturer, Compiler Course</b> (Supervised by <a href="#">Dr. Seyed Javadi</a> ) <ul style="list-style-type: none"><li>• Delivered a one-time lecture on computational complexity and compiler design while the regular instructor was unavailable.</li><li>• Addressed student questions and clarified complex concepts</li></ul>
Fall 2024	<b>Head Teaching Assistant, Basis of Theory of Computation</b> (Supervised by <a href="#">Dr. AliAbdi</a> ) <ul style="list-style-type: none"><li>• Managed the team</li><li>• Conducted tutorial sessions</li><li>• Assisted in grading midterm exams and problem-solving</li></ul>
Spring 2024	<b>Teaching Assistant, Abstract Matrix and Linear Algebra</b> (Supervised by <a href="#">Dr. Nasr</a> ) <ul style="list-style-type: none"><li>• Conducted tutorial sessions</li><li>• Designed Exercises</li><li>• Assisted students with problem-solving</li></ul>
2023-Summer	<b>Education Mentor at <a href="#">Hamrah Aval Academy</a></b> <ul style="list-style-type: none"><li>• Mentored top-performing students in the 'Keyboard' program by MCI Academy.</li><li>• Provided guidance and support to help students improve problem-solving and learning,</li><li>• Designed and supervised exercises in Python, including algorithmic and ML problems</li></ul>

## Patents

### Precision Measurement Tool for Large O-Rings (>200 mm)— *Second Inventor:*

Conducted computational calibration for the accurate measurement of large, flexible O-rings, and for developing a tool that integrates mechanical design.

Nationally registered in Iran, [Patent No. 112589](#)

Spring 2025

## QUALIFIES & CERTIFICATES

<b>An Introduction to NLP</b> , Amirkabir University of Technology ( <a href="#">Credited</a> )	Fall 2023
<b>Federated Learning 2.0</b> , Amirkabir University of Technology ( <a href="#">Credited</a> )	Fall 2023
<b>Lectures on Modern Topics in Applied Mathematics</b> , University of Tehran ( <a href="#">Credited</a> )	Fall 2024
<b>Media Skills and Information Warfare in Noisy Cyberspace</b> , Shahed University ( <a href="#">Credited</a> )	Fall 2025

## HONORS & AWARDS

2025	<b>Recognized as an Exceptional Talent</b> for achieving 1 <sup>st</sup> rank in cohort, Shahed University ( <a href="#">Credited</a> )
2025	<b>Ranked among the top 5% of all B.Sc. students</b> , Shahed University
2024	<b>Ranked in ICPC Asia Tehran Regional Contest</b> using Python, Shahed University ( <a href="#">Credited</a> )
2024	<b>Ranked 2nd in the Local Programming Championship</b> using Python, Shahed University

## LANGUAGES

Farsi: Native    English: Fluent ([6.5](#) in IELTS: S: 6.5, W: 6.5, L: 7.5, R: 6)    Arabic: Basic    Japanese: Basic

## REFERENCES

<b>Dr. Ardeshir Dolati</b> , Associate Professor School of Computer Science, Shahed University Email: <a href="mailto:Dolati@Shahed.ac.ir">Dolati@Shahed.ac.ir</a>
<b>Dr. Hesam Sharifi</b> , Associate Professor School of Applied Mathematics, Shahed University Email: <a href="mailto:HSharifi@Shahed.ac.ir">HSharifi@Shahed.ac.ir</a>

<b>Dr. Amin AliAbdi</b> , Assistant Professor School of Computer Science, Shahed University Email: <a href="mailto:A.aliabdi@shahed.ac.ir">A.aliabdi@shahed.ac.ir</a>
<b>Dr. Mohamad Ali Nasr</b> , Assistant Professor School of Computer Science, Shahed University Email: <a href="mailto:Nasr@Shahed.ac.ir">Nasr@Shahed.ac.ir</a>