

# SEPEHR MADANI

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Watertown, MA 02472 | (857) 498-9116 | [seyedsepehr\\_madani@student.uml.edu](mailto:seyedsepehr_madani@student.uml.edu) | [www.github.com/1ssepehr](https://www.github.com/1ssepehr)

## Education

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B.S. in Computer Science

Expected Dec 2022

University of Massachusetts Lowell, Lowell, MA — Honors College

- GPA: 3.98
- Related Courses: Object-Oriented Programming, Data structures and Algorithms, Programming Languages, Assembly Language, Computer Architecture, Discrete Structures I & II, Linear Algebra I & II

## Skills

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Programming: C, C++, Python, PyQt5 / PySide2    Computer Calculation: Wolfram Mathematica, MATLAB

## Academic Projects

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Pascal Compiler (Honors College Project), 2020 – present

- Designing and implementing a compiler front-end for the Standard Pascal using Flex and Bison
- Developing a code translation module using LLVM Intermediate Representation language

Nulli-fi, 2020 ([GitLab repo](#))

- Created and maintained a Python package for testing different algorithms on nulling systems for mmWave wireless LANs using phased arrays
- Assisted master's candidate by implementing the genetic algorithm for finding nulls
- Designed a GUI tool using Qt for performance analysis of the proposed nulling algorithms

ONR (Optical music Note Recognition), 2015 – 2016

- Built a MATLAB-based project to recognize musical notes from scanned music sheets to assist in note-reading

## Volunteer Experiences

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TOEFL Tutor, *Project Literacy (WFPL), Watertown, MA, July 2020 – present*

- Tutored ESOL adults in preparation for the speaking and writing tasks of the TOEFL test
- Designed customized lessons based on each student's knowledge

Peer Tutor for Mathematics Olympiad, *Allameh Helli High School, Tehran, Iran, 2017*

- Tutored the sophomore Math Olympiad students via problem-solving classes
- Drafted and compiled a standardized geometry reference booklet of lectures and problems for students

## Honors and Awards

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- Iranian Association of Boston's Scholarship Award, 2020
- UMass Lowell Honors College Fellowship Award, 2020
- Iranian Scholarship Foundation Undergraduate Scholarship Award, 2020
- International Student Scholarship Award at UMass Lowell, 2019 and 2020
- Second Prize in [Iran's National Mathematics Olympiad](#) (Silver Medal), 2017