Saman E. Nazari

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Education

University of Tehran   Tehran, Iran
B.S. in Computer Engineering   *Sep 2020 - Present*
- **GPA:** 18.42/20.00 (3.95/4.00)
- **Relevant Courses:** Theory of Languages and Automata, Compiler Design, Natural Language Processing, Computer Networks, Operating Systems, Introduction to Distributed Computing, Design of Algorithms.

Shahid Soltani   Alborz, Iran
High School Diploma in Mathematics   *Sep 2017 - May 2020*
- As a part of the National Organization for Development of Exceptional Talents (NODET).
- GPA: 19.68/20 (4.00/4.00)
- Ranked second amongst graduates.

Research Interests

Computer Networks, Distributed Computing, Formal Methods, Programming Languages, Program Synthesis

Research Experience

CBMC for Viper

ETH Zürich   *Jul 2023 - Aug 2023*
- Chosen for a highly competitive program at ETH Zurich (SSRF-2023), working under supervision of Prof. Dr. Peter Müller.
- Aimed to test CBMC funcationalities to integrate model checking into the Viper verification system, adding other methods of program analysis to the Viper toolset.
- Successfully modeled various aspects of the Viper language (including predicates, inhaling, and exhaling statements), and identified CBMC's shortcomings, particularly its inability to model Viper's data types.
- Determined that CBMC is not a suitable tool for the integration with Viper verification system.

Selected Projects

Data Analytics Website

Star Academy, Mohaymen company   *Jun 2021 - Sep 2021*
- A group project written in C# using ASP.NET and ADO.net for Star Academy summer internship program.
- Implemented the back-end of the website providing features like database handling and data manipulation tools. The purpose of this website was to provide users a place to upload their data and perform queries over them.
- Coordinated a group of 5 interns as the group leader, and syncing the project with the front-end developers team.

Logic-PL Compiler

University of Tehran   *Feb 2023 - May 2023*

- A compiler implemented in four phases in a group of two. It includes lexical, syntax, and semantic analyzers alongside a type checker and a code generator. The code generation outputs Java Byte code-like, which only shows the correction of the implementation logic. [Repo]

Operating Systems Course Projects

University of Tehran   *Sep 2022 - Feb 2023*

- Includes 3 different projects to learn important concepts of operating systems [Repo]:
  * Auction Service (Socket Programming): Developed an auction service with a topology of multiple clients connecting to a central server, utilizing socket programming to handle client-server communication.
  * Map-Reduce Counting System (IPC): Implemented a map-reduce system to count occurrences using various inter-process communication (IPC) methods, demonstrating proficiency in coordinating processes.
  * Created a parallel image processing application using the Pthreads library, enhancing performance through concurrent processing techniques.
- The course also included a series of experiments on modifying the xv6 operating system. [Repo]

Natural Language Processing Course Projects

University of Tehran   *Feb 2024 - May 2024*

- Includes 6 different projects each concentrating on different parts of NLP. It mostly follows chapters of the Jurafsky's Speech and Language Processing book, including implementations of simple language models like n-grams to more complex ones using neural networks. [Repo]

Extracurricular Activities and Volunteering

University of Tehran ACM Student Chapter

Vice President   *Jun 2023 - May 2024*

- Organized and led several events by managing the staff team, negotiating with sponsors, and handling various other tasks. These events included hackathons, coding workshops, and various cultural events.

Teaching Assistance

University of Tehran

- **Advanced Programming:** Organized the course as the **chief assistant** under the supervision of Prof. Dr. Khosravi.
- **Theory of Languages and Automata:** Homework design and grading TA instructed by Prof. Dr. Hojjat.
- **Engineering Probability and Statistics:** Homework design and grading TA instructed by Prof. Dr. Bahrak.
- **Introduction to Computing Systems and Programming:** Lab instructor and grading TA instructed by Prof. Dr. Hashemi.

Advanced Programming Course Magazine

Editor in Chief   *Mar 2023 - Jul 2024*

- Successfully designed and established the course magazine for the first time in the Advanced Programming course at the University of Tehran.
- Led a team of TAs to write and publish a series of issues focused on educating first-year students about programming paradigms and the C++ language.

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Event holder and mentor   *Mar 2024 - Jul 2024*

- A series of events held for the first time in Advanced Programming course, aiming to introduce different fields and topics of computer science to first year students.

- This event included some general meetings to discuss various fields and connect senior and junior students. It ended with creating more specific groups in four fields of computer science: Software Engineering & Programming Languages, Data Management and Machine Learning, Information & System Security, and Theory & Algorithm.
- Mentored a group of students in the field of Software Engineering & Programming Languages.

Languages

Persian (Native), English (Fluent)