Yaghoub Shahmari

Academic Resume

Contact Information

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Education

2019–Present **Bachelor of Physics and minor of Computer Science:** Sharif University of Technology, Tehran

CGPA: 16.82/20   Highest SGPA: 18.31/20

2012-2019 **MIDDLE-SCHOOL AND HIGH-SCHOOL:** NODET Schools (National Organization for Development of Exceptional Talents), Tehran

Areas of Interest

Nonlinear Dynamic, Complex Systems, Modeling Infectious Diseases, Neuroscience, Modeling Quantitive systems, Data Science, Computational science, Econophysics

Projects

December 2020 **Simulation of Mechanical Random Walker System:** This was my first computational project and simulation of a physical system. After I watched a video of a Galton Boards device, I was motivated to simulate it using code. My code simulates the same system and condition in the video. I presented this project as the Analytical Mechanic 1 (Presented by Dr. Rahvar) term project.

Github

May 2021 **Simulation of Janus bunch:** I was looking for a topic for the term project of Analytical Mechanic 2 (Presented by Dr. Rahvar) that is related to complex systems fields. I started this after I recieved some advice from Dr. Saman Moghim.

Github

May 2021 **Investigating the effects of Prevention and Quarantine on SIR:** It was my term project of the Modeling Statistical Phenomena course under the supervision of Dr. F Ghanbarnejad. The algorithm was simple but the challenge was optimization. The aim of this simulation was to apply the algorithm on a very large network and I couldn't let it run forever! this was reproduction of the original paper.

Github

January 2022 **Neuroscience term project:** It was my group's term project of the Introduction to Neuroscience (Presented by Dr. Ghazizadeh). In this project, we investigated the data of a monkey during behavioral tasks. The whole experiment contained many trials and throughout the experiment, an electrode stored data of motor parts of the brain.

Github

Contributor: Maedeh Karkhaneh Yousefi, Ali Abolhassanzadeh Mahani

March 2022 - **Modeling of commodity prices:** Modeling of commodity prices, relating the field of Complex
Present Systems with Economy, both analytically and computationally.

Github

Contributor: Maedeh Karkhaneh Yousefi

Selected Assignments

Spring 2021 **Some minor efforts in the epidemiology:** They are all of my saved efforts as homework and
minor projects of the Modeling Statistical Phenomena course. Due to lack of my attention,
Most of my efforts are lost forever.

Github

Fall 2021 **Computational Physics 2021:** They are all of my efforts as homework and minor projects of
the Computational Physics course (Computer Simulation in Physics). During this course, I
learned Julia programming language myself and used it to do homework.

Github

Technical Skills

Languages
JULIA, PYTHON, C, C++, C#, HTML, CSS,
OCTAVE, MATLAB, MATHEMATICA, MAPLE

Software
LINUX, VSCODE, GIT, LaTeX,
Unity, Photoshop, Solidworks, Catia, Word, Power Point, Excel

Selected Courses

Spring 2020 Introduction to Universe (Dr. B.Mashhoon) - Grade: 18.0/20
Spring 2021 Modeling Statistical Phenomena (Dr. F.Ghanbarnejad) - Grade: 16.5/20
Spring 2021 Thermodynamic and Statistical Physics 1 (Dr. O.Akhavan) - Grade: 19/20
Fall 2021 Thermodynamic and Statistical Physics 2 (Dr. O.Akhavan) - Grade: 19.8/20
Fall 2021 Computer Simulation in Physics (Dr. M.R.Ejtehadi) - Grade: 17.5/20
Fall 2021 Computer Simulation lab in Physics (Dr. M.R.Ejtehadi) - Grade: 17.5/20
Fall 2021 Introduction to Neuroscience (Dr. A.Ghazizadeh) - Grade: 14.7/20
Spring 2022 Complex Systems (Dr. S.Ruhani) - Grade: N/A
Spring 2022 Data Science & HPC (Dr. H.R.Arian) - Grade: N/A
Spring 2022 Numerical Analysis (Dr. N.Mahdavi) - Grade: N/A

Voluntary Activities

2020-2021   **Main Member of the Committee, Public relations manager, and Graphist of Sharif Physics Student Scientific Association, Link**

The Physics Student Scientific Association is one of the scientific, cultural and student associations of Sharif University and is under the supervision of the Faculty of Physics. The Scientific Association of the Faculty of Physics has always been trying to organize valuable and fruitful activities and programs as extracurricular activities for students and those interested in physics.

2020-2021   **Head of News-Reading of Department, Link**

The news-reading of the Department of Physics is a program under the supervision of Dr. Moghimi that examines the daily news of the world of physics and invites students and professors to present the latest news of the world of physics in 15 minutes.

2020-2021   **Member of the Executive Committee, Graphist, and lecturer of Landa Scientific Circle, Link**

The Landa Circle is one of the scientific circles of the Department of Physics that encourages students to give presentations in physical and non-physical fields.

Summer 2021   **Executive member Sharif Socio-Physics School, Link**

The Sharif Socio-physics School (SSP2021) was held from 14th September to 16th September. The school provided young graduate students and researchers and even advanced undergraduate students a useful set of information and skills on socio-physics.

Fall 2020   **Organizer and Graphist of the Conference introducing the branches of Physics, Link**

Organising series of "Introduction to Fields of Physics" sessions, having the Physics department professors as lecturers.

Spring 2021   **Organizer and Graphist of the Session of Introduction to Complex Systems, Link**

A session organized for Introducing the filed of Complex systems to the physics students of Sharif University of Technology by three International students of highest-ranking Europe universities.

Winter 2022   **Lecturer of the SPSSA Julia Workshop, Link**

A workshop suitable for those who want to get acquainted with the capabilities, strengths and features of Julia programming language and change their programming language to Julia.