YALDA SHANKAR

Curriculum Vitae

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OBJECTIVES AND MAJOR INTERESTS

I have a Master's degree in **Artificial Intelligence** from Shiraz University, Shiraz, Iran and also an **Information Technology** Undergraduate degree from Shiraz University of Technology, Shiraz, Iran. My research interests are as follow:

- ○ AI-assisted Design of Art (Language Theory, Physical Simulation, Machine Learning)
- ○ Deep Learning (CNNs, Transformers, GNNs)
- ○ Reinforcement Learning

EDUCATION

2016–2019 **Master of Artificial Intelligence and Robotics**, *School of Computer Engineering*, Shiraz University , Shiraz, Iran
GPA: 17.29/20.0 (3.86/4.00)

Statistical Pattern Recognition*, Optimization Algorithms, Machine Learning*, Advanced Engineering Mathematics*, Digital Image Processing*, Bioinformatics and Computational Biology, Fuzzy Systems and Propositions*.
(*: earned one of the first three grades in the course.)

2018–2018 **Winter School**, *Data Analytics for IT Enterprises*, University of Bonn, Germany (Erasmus)

2012–2016 **Bachelor of Information Technology Engineering**, *School of Information Technology and Computer Engineering* , Shiraz University of Technology, Shiraz, Iran
GPA: 17.63/20.0

Theory of Languages and Automata*, Design of Algorithms*, Operations Research, Computer Networks I*, Computer Networks II*, Discrete Mathematics*, Distributed Software*, Artificial Intelligence, Computer Graphics, Advanced Programming*, Introduction to Computer Programming*, Information Technology Engineering, Software Engineering II*, Mathematics I*, Mathematics II*.
(*: earned the highest grade in the course.)

2008–2012 **High School Diploma**, *Mathematics and Physics Discipline*, Eghbal Talent High School, Shiraz, Iran
Total GPA 18.20/20.0

CERTIFICATIONS

Mar 2021 **Technology Entrepreneurship**, *HarvardX*

Feb 2021 **Transforming User Experience through AI**, *Stanford University*

Sep 2020 **Innovation of Products and Services: MIT's Approach to Design Thinking**, *MIT*

Academic Honors and Awards

- Won travel grant by GraDAna Erasmus+ Project and attended Big Data Winter School at Bonn University, in 2018.
- Accepted in the Masters program **without university entrance exam**, as an exceptional student in the fields of Artificial Intelligence as well as Information Technology at Shiraz University, and Software Engineering and Computer Networks at Shiraz University of Technology.
- Awarded by University Chair as **exceptional talent student** in 2015.
- Ranked **2nd** amongst University Students of Class 2016, Shiraz University of Technology based on the overall GPA.
- Validated for the second round of Iranian National Mathematics Olympiad. 2010.
- Validated for the second round of Khwarizmi International Award (KIA). 2009.

Thesis and Research Experience

2016–2018   **Master Thesis:** A Large-Margin Approach for Prototype Weighting in Nearest Neighbor Classifier, under supervision of Dr. K. Ziarati and Dr. M. Taheri (Excellent Score).

2015–2016   **Research:** Designing a new optimization algorithm called Dog Search Algorithm (DSA) for solving numerical optimization problems, under supervision of Dr. Reza Akbari.

2013–2016   **Bachelor Thesis:** Machine Learning Techniques and Algorithms using Big Data, under supervision of Dr. Reza Akbari.

Publications

2022–2023   **A Cohomological Understanding of Neural Dynamics**
Yalda Shankar, Sukrit Shashi Shankar
Nature Machine Intelligence (Working Paper)

2022–2023   **Computational Abstractions of PDEs for GNN Architectures**
Yalda Shankar, Sukrit Shashi Shankar
Nature Machine Intelligence (Working Paper)

Computer & Software Skills

Python (Pytorch), MATLAB, R, Java, Affinity Designer, Procreate, Adobe Illustrator, Clo3D

Work Experience

Winter 2018   **Machine Learning Programmer**, Teyhoo Rayane company, Fars Science and Technology Park, Shiraz, Iran.

Fall 2017   Teaching Assistant of **Statistical pattern recognition** (Dr. Z. Azimifar), Shiraz University, Shiraz, Iran (Master course)

Fall 2017   Teaching Assistant of **Advanced Engineering Mathematics** (Dr. M. Taheri), Shiraz University, Shiraz, Iran (Master course)

Fall 2015   Teaching Assistant of **Software Engineering I** (Dr. O. Booshehrian), Shiraz University of Technology, Shiraz, Iran (Bachelor course)

Fall 2015   Teaching Assistant of **Operating Systems** (Dr. R. Akbari), Shiraz University of Technology, Shiraz, Iran (Bachelor course)

Fall 2015   Teaching Assistant of **Engineering Economics** (Dr. J. Eghtesadifar), Shiraz University of Technology, Shiraz, Iran (Bachelor course)

Seminars and Presentations

- **Automated Composition of Big Data Services**, Big Data Workshop, *Shiraz University, Fall 2017.*

- **Lecture on Social Networks**, Properties and Structure in Mathematics and Interdisciplinary Science, and related Ideas in Graph Theory and Optimization, Department of Mathematics, *Shiraz University, Fall 2014.*

- **Lecture on Music and Mathematics**, An overview of relations between music and mathematics, using group-theoretic aspects of musical structures and the use of fractals in musical algorithms, *Shiraz University of Technology, Summer 2013.*

Language Skills

[Persian , Native] [English , Advanced] [Hindi , Elementary]

Extracurricular Activities

Music, Painting, Hiking, Cycling, Cooking, Reading, Interior Decoration, Fashion Designing