

AMIR MASOUD SEFIDIAN

PERSONAL INFORMATION

Birth Date & Place June 20, 1993, Damghan, Iran
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RESEARCH INTERESTS

Machine Learning
Data Mining
Deep Learning
Artificial Intelligence
Pattern Recognition
Information Retrieval

EDUCATION

2015-2017 **M.Sc. in Computer Engineering**

Shahid Rajaee University, Tehran, Iran

GPA: 4.0/4.0 (19.34/20) · **Ranked 1st** among all M.Sc. students.

Thesis: *"Missing value estimation and inconsistencies detection in data improvement using data partitioning"* (Mark: 20/20)

Supervisor: Dr. Negin Daneshpour

Relevant Coursework: Data Mining, Machine Learning, Pattern Recognition, Advanced Operating Systems, Web Mining, and Decision Support Systems

2011-2015 **B.Sc. in Computer Engineering**

Shahid Rajaee University, Tehran, Iran

GPA: 3.96/4.0 (19.15/20) · **Ranked 1st** among all B.Sc. students.

Thesis: *"Designing an online consultation system"* (Mark: 20/20)

Supervisor: Dr. Hamid Reza Shayegh

2007-2011 **High School Diploma in Mathematics & Physics**

Kosaran High School, Tehran, Iran

GPA: 19.75/20 · First rank in the class

PUBLICATIONS

Journal Papers

Sefidian, Amir Masoud, and Daneshpour, Negin (2019). *"Missing value imputation using a novel grey based fuzzy c-means, mutual information based feature selection, and regression model"*. Expert Systems with Applications, 115, 68-94.

Sefidian, Amir Masoud, and Daneshpour, Negin (2018). "Applying regression models on subsets with high correlations for a better numeric missing values imputation". *Tabriz Journal of Electrical Engineering*, 48(3), 1187-1200.

Sefidian, Amir Masoud, and Daneshpour, Negin (2017). "Using clustering and a hybrid method to fill the numeric missing values". *Iranian Journal of Electrical and Computer Engineering (IJECE)*, 15(3), 233-242.

Submitted Papers

Sefidian, Amir Masoud, and Daneshpour, Negin (2019). "Estimating missing data using novel correlation maximization based methods". Submitted to *Applied Soft Computing*.

HONORS & AWARDS

2018-2019 Best researcher of Shahid Rajaei University award.

2017-present Recognized as a National Elite by [Iran's National Elites Foundation \(INEF\)](#) (INEF is a national organization and composed of members who show exceptionally high intellectual capacity, academic aptitude, and creative ability.).

2015-2017 **Ranked 1st** among all M.Sc. Computer Engineering students.

2015 Received straight M.Sc. admission offer to Shahid Rajaei University (This special position is offered to elite B.Sc. students who achieved highest GPAs to be straightly admitted to M.Sc. program.).

2011-2015 **Ranked 1st** among all Computer Engineering students in all of (eight) semesters of studying B.Sc.

2011-2015 Awarded Faculty of Computer and Electrical Engineering prize and scholarship as exceptional talent student for four consecutive years.

2011 Ranked within top 1% among more than 464,000 applicants in B.Sc. National Universities Entrance Exam, Iran.

2007-2011 **Ranked 1st** among all students at Kosaran High School (of the same enrollment year) for four consecutive years.

Nov 2009 Qualified for the final round of *Khawrazmi National Robotics Competitions - Rescue League* (Ranked 8th in the final stage), K. N. Toosi University of Technology, Tehran, Iran.

Apr 2009 Participating as a member of Kosaran High School Robotics Team in 4th *International RoboCup Iran Open Competitions - Rescue League*, Qazvin Azad University, Qazvin, Iran.

Feb 2009 Participating as a member of Kosaran High School Programming Team in *Iranian High School Students Programming (C++) Competition*, Sharif University of Technology, Tehran, Iran.

RESEARCH / PROFESSIONAL EXPERIENCE

2015-present **Researcher**, Computer Science R&D Laboratory, Faculty of Computer Engineering, Shahid Rajaei University:

Conducting research in the field data cleaning especially missing values imputation problem:

Writing a survey on Preprocessing Techniques in Web Log Usage Mining.

Designing and implementing three novel missing imputation approaches:

- A hybrid imputation approach based on clustering, weighted k nearest neighbors, and linear regression models.
- Ten correlation maximization based imputation methods
- Missing data imputation approach using a grey-based fuzzy c-means, mutual information based feature selection, and regression models.

2019 **Reviewer**, *International Journal of Uncertainty, Fuzziness and*

Knowledge-Based Systems (IJUFKS).

TEACHING EXPERIENCE

- 2018–present* **Private Tutor**, Teaching Python, Machine Learning, and Data Mining.
- Spring 2018* **Teaching Assistant**, "Data Mining", Faculty of Computer Engineering, Shahid Rajaei University, Instructor: Dr. N. Daneshpour.
- Fall 2017* **Teaching Assistant**, "Decision Support Systems", Faculty of Computer Engineering, Shahid Rajaei University, Instructor: Dr. N. Daneshpour.
- Spring 2016* **Teaching Assistant**, "Database", Faculty of Computer Engineering, Shahid Rajaei University, Instructor: Dr. N. Daneshpour.

SELECTED ACADEMIC PROJECTS

Implementing various machine learning algorithms such as MultiLayer Perceptrons, Self-Organizing Maps, Radial Basis Function Networks, Naïve Bayes Classifier, K Nearest Neighbors, K-means, and Genetic Algorithm from scratch using PYTHON.

- 2016* **Machine Learning Course Project**, Designing and developing a novel missing data imputation framework using Self-Organizing Map (SOM) neural networks and Weighted K Nearest Neighbors technique.
- 2016* **Semantic Web Course Project**, Designing and implementing different semantic web layers for a transport application using XML, XQuery, XSD, XSLT, and Web Ontology Language (OWL).
- 2015* **Expert Systems Course Project**, Predict and analyze performance of Portuguese students in Portuguese language course using different data mining techniques (Decision Tree, Random Forest, Neural Network, SVM, and KNN) in Weka.
- 2015* Designing and implementing a simple word segmentation algorithm for Persian text images using morphological operations in Matlab.

MEMBERSHIPS

- 2017–present* Iran's National Elites Foundation (INEF)
- 2007–2011* Kosaran High School Robotics Team

WORK EXPERIENCE

2014–present **Freelance PYTHON Developer**

Developing data analysis and machine learning services in order to analyze organizational time series data based on microservices architecture using Python, gRPC, Protobuf, and Docker.

Designing and implementing a web-based appointment scheduling, accounting, and management system for Farzandane Bartar Consultation Institute using Django, MySQL, HTML, CSS, and JavaScript.

2013–2014 **Freelance PHP Developer**

Developing first carpooling website in Iran 4paaye.ir (Winner website of 8th Iranian Web and Mobile Festival (IWMF)).

Back-End developer of Mehreab Magazine website.

Summer 2014 **Summer Intern, IdeBekr Mobin - Tehran**

Full-Stack Web Developer, Software Quality Assurance and Control Tester

TECHNICAL SKILLS

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|---------------------------------------|--|
| <i>Programming Languages</i> | Proficient in PYTHON: Machine Learning and Data Science Stacks: scikit-learn, numpy, pandas, scipy, matplotlib, seaborn. Also familiar with Tensorflow and Keras frameworks. Web: Django. Familiar with: Java, C++/C, PHP, WebDev Languages (HTML, CSS, JavaScript/jQuery), MATLAB, Assembly |
| <i>Databases</i> | MySQL, SQLite, PostgreSQL, MS SQL Server, MongoDB, Elasticsearch |
| <i>Other Tools & Technologies</i> | Git, Docker, gRPC, Protocol Buffers, RESTful API, Microservices & MVC architectures, L ^A T _E X, Weka, Raspberry Pi, AVR Microcontrollers |
| <i>Operating Systems</i> | Linux and Windows |

LANGUAGES

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|---------|---|---|
| PERSIAN | · | Mothertongue |
| ENGLISH | · | Fluent (Reading, Listening), Intermediate (Writing, Speaking) |
| ARABIC | · | Basic |

SELECTED ONLINE COURSES

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|------|---|
| 2019 | Deep Learning Specialization: Sequence Models - Coursera |
| 2019 | Deep Learning Specialization: Convolutional Neural Networks - Coursera |
| 2018 | Deep Learning Specialization: Structuring Machine Learning Projects - Coursera |
| 2018 | Deep Learning Specialization: Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization - Coursera |
| 2018 | Deep Learning Specialization: Neural Networks and Deep Learning - Coursera |
| 2018 | Python for Data Science and Machine Learning Bootcamp - Udemy |
| 2018 | The Complete Machine Learning Course with Python - Udemy |
| 2018 | Understanding Machine Learning with Python - Pluralsight |
| 2018 | Complete Python Bootcamp: Go from zero to hero in Python 3 - Udemy |
| 2018 | The Python Bible — Everything You Need to Program in Python - Udemy |
| 2018 | The Ultimate Python Programming Tutorial - Udemy |
| 2017 | Machine Learning - Coursera |
| 2016 | Python for Beginners: Python Programming Language — Tutorial - Udemy |

EXTRACURRICULAR ACTIVITIES AND HOBBIES

Playing Piano & Melodica · Playing Football · Swimming · Running · Cycling · Studying Languages · Taking Online Courses

March 4, 2019