Amir Talakoob

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Research interests

Amir Talakoob is deeply passionate about supervised and unsupervised Machine Learning Models, as well as Collective Intelligence to find hidden data patterns and design more efficiently. He is also interested in research with a focus on math and statistics. His academic coursework has allowed him to shift his focus toward topics involving stochastic analysis and intelligent systems, as well as theory and implementation of techniques for data analytics and mining with emphasis on big data.

Education

2022 – Present **California State University, Sacramento** – Sacramento, California
BS in Computer Science
Minor in Mathematics
GPA: 3.99

2019 – 2021 **American River College** – Sacramento, California
AS in Computer Programming - Java
AS in Computer Programming - C++
AS in Physical Sciences: Mathematics
GPA: 4.00

Selected coursework

- *Machine Learning*: Intelligent Systems, Data Analytics and Mining (emphasizing big data).
- *Mathematics, Statistics*: Linear Algebra, Calculus I, Calculus II, Introduction to Probability and Statistics, Introduction to Probability Theory, Introduction to Techniques of Operations Research.

Honors and scholarships

2023 Janaki Memorial Scholarship in Computer Science

2022 – 2023 Dean's Honor List (CSUS)

2021 Highest of Honors (American River College)

2018 Outstanding Academic Excellence (President's Education Awards Program)

Publications

2024 **Feasibility and Implications: Integrating Zero-Emission Vehicles into California's Power Grid**
Amir Talakoob, Atefeh Mohammadpour.
Status: In-progress, to be published.

Research experience

August 2023 – Present **Feasibility and Implications: Integrating Zero-Emission Vehicles into California's Power Grid**
Mentors: Professor Atefeh Mohammadpour (CSUS).
Ongoing research focuses on power generation and consumption patterns in California and the added strain on the power grid by Electric Vehicles.

March 2023 – Present **C++ Collaborative Studies**
Mentors: Professor Coskun Cetin.
Participating in research focusing on the Multiphysics Object-Oriented Simulation Environment (Moose) framework and Matlab to develop a solver for specific physical problems.
Status: In-progress

Teaching experience

Fall 2023 **Teaching assistant, Math Partners Program, STAT 115A: Introduction to Probability Theory (CSUS)**
Hosting at least five office/study hours each week; assisting students; Designing surveys and reports

Summer 2021 - and Summer 2022 **Bilingual Instructional Assistant (San Juan Unified School District)**
Assisted teachers in summer programs in both elementary and secondary schools. The main focus was on Math and English courses for students with low English proficiency and refugee students.

Work experience

Fall 2023 - Spring 2024 **Research Assistantship Program (RAP) - College of Engineering & Computer Science, CSUS**
Conducting research, working with a faculty from the Construction Management Division of the ECS Department.

Fall 2023 **Math Partner at Math Partners Program, Department Of Mathematics & Statistics, College Of Natural Sciences & Mathematics, CSUS)**
Liaison between students and the instructor. Keeping track of the pace and progress of the course by designing surveys after each quiz and exam. Hosting study hours.

Summer 2022 **Bilingual Instructional Assistant, San Juan Unified School District - Summer School Program** – Sacramento, California
Assisted teachers and staff during summer school, working in math and English classes with refugee students and students with minimal English proficiency.

Fall 2021 **Coordinator for After School Program - Soaring Scholars)** – Sacramento, California
Working as a coordinator for Soaring Scholars, a contractor with the local school district, directly working with Elementary school students

Talks and tutorials

July 2024 Feasibility and Implications: Integrating Zero-Emission Vehicles into California's Power Grid
2024 ASCE International Conference on Computing in Civil Engineering (i3CE 2024)

May 2023 Statistical Analysis of Dissolved Oxygen Concentration Levels in a River
The Expanded Sustainable Interdisciplinary Research to Inspire Undergraduate Success (SIRIUS II) STEM Conference, CSUS

Volunteer Work

Summer 2021 **Volunteer Instructional Assistant, San Juan Unified School District - Summer School Program**
Assisted teachers and staff during summer school, working in math and English classes with refugee students and students with minimal English proficiency.

Professional memberships

March 2023 – Present: The National Society of Leadership and Success

April 2020 – Present: Phi Theta Kappa Honor Society, Beta Zeta Pi Chapter

Technical skills

Programming languages and Web Development
Proficient in Python, Java, C++, HTML/CSS, MySQL
Familiar with Matlab, React, C, Assembly x86

Libraries and Modules
Python: NumPy, Scikit-learn, Pandas, Tensorflow, Matplotlib

Software
Git, Microsoft Office, Adobe Photoshop, Adobe Dreamweaver

Languages
English (fluent)
Persian (fluent)