

Samaneh Shirinnezhad

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EDUCATION

• B.Sc. in Computer (Hardware) Engineering

September 2012 - December 2016

Jundi Shapur University of Technology

Dezful, Iran

- **Thesis:** Design and Development of a VR Game with Motion Sensor Integration for Mobile Platforms using Unity and Google Cardboard
- **GPA:** 145 credits program with GPA of 17.51/20. GPA of the last two years is (3.78/4.00)
- **Selected Courses:** Advanced Programming, Algorithm Design, Data Structures, Artificial Intelligence, Data Transmission, Discrete Structures, Internet Engineering

RESEARCH INTERESTS

- Machine Learning
- Deep Learning
- Natural Language Processing
- UI/UX Design
- Interactive Systems
- AI in Healthcare & Education

RECENT PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=IN PRESS, S=SUBMITTED, U=UNDER REVIEW

Find me at: [Google Scholar](#) [ORCID](#)

- [P.1] Samaneh Shirinnezhad, & Dr. Davoud Ghahremanlou. (2025). **Navigating the Canadian Renewable Energy Landscape through Bibliometric and Machine Learning Insights**. *International Journal of Global Warming*.
- Developed an AI-assisted topic modeling pipeline (LDA + ChatGPT) and explored HCI implications for visual analytics and inclusive, community-led sustainability planning.
- [S.1] Samaneh Shirinnezhad, & Dr. Davoud Ghahremanlou. (2025). **Machine Learning for Enhanced Bibliometric Analysis of Renewable Energy Research Trends in Canada**. Manuscript submitted for publication in *International Energy Journal*.
- [J.1] A. Ashouri Vajari, S. Kotian, S. Shirinnezhad, et al. (2024). **Optimizing Hybrid Energy Solutions for Enhanced Energy Resilience and Sustainability in Repulse Bay Using HOMER Pro**. *Journal of Green Economy and Low-Carbon Development*, Vol. 3, Issue 2, pp. 69-81. [\[DOI\]](#)
- [J.2] A. Maliat, S. Kotian, S. Shirinnezhad, et al. (2024). **Enhancing Sustainability in Hopedale, Newfoundland and Labrador, Through Hybrid Microgrid System Design**. *Power Eng. Eng. Thermophys.*, Vol. 3, Issue 1, pp. 5876. [\[DOI\]](#)
- [J.3] A. Ashouri Vajari, S. Kotian, S. Shirinnezhad, et al. (2024). **Optimizing Hybrid Energy Systems for Sustainable Development at the Canadian Arctic: A Case Study for Arviat**. *Journal of Urban Development and Management*, Vol. 3, Issue 3, pp. 150-163. [\[DOI\]](#)

EXPERIENCE

• Upwork [🌐](#)

April 2023 - Present

Freelance Data Scientist & Frontend Developer

Remote

- Delivered full-stack solutions in data analytics, frontend development, and UI/UX design for dashboards and interactive web tools.
- Designed clean, responsive interfaces with a focus on usability and accessibility across projects involving business intelligence, GIS, and social media analytics.
- Built custom machine learning models and visualization tools to support client decision-making.

• Amoun Computer Institute

2020 - 2023

Computer Science Tutor

Andimeshk, Iran

- Tutored students in programming, data structures, and algorithms (Python, C++) and assisted with project work and exam prep.

• Bartar Language School

2016 - 2020

English Instructor

Dezful, Iran

- Taught ESL skills and led interactive workshops to improve student fluency and engagement.

SELECTED PROJECTS

• AirSpell: AI-Powered Air-Writing for Early Literacy

July 2025

Tools: React, TensorFlow.js, HTML5 Canvas, JavaScript



- Designed a React + TensorFlow.js app for spelling practice via real-time hand tracking and air-writing.
- Addresses literacy and motor skill development through playful, embodied interaction.
- Supports adaptive feedback, undo/redo controls, and accessibility for diverse learners, with future plans to add scoring and gamification.

• Smart Text Enhancer

May 2025

Tools: JavaScript, Chrome Extensions, OpenAI API



- Built a GPT-3.5-powered Chrome extension for simplifying, translating, and rephrasing text directly on webpages.
- Enhances comprehension and digital literacy by adapting content to reading level, language, and tone.
- Offers customizable reading aids (e.g. dyslexia font, font size), supporting personalized engagement.

• Stock Market Prediction Analysis

October 2024

Tools: Python, Pandas, Scikit-learn, TensorFlow, LSTM, Random Forest



- Predicted significant stock price movements using a Random Forest model, achieving an F1 score of 82%, indicating a good balance between precision and recall.
- Utilized an LSTM network to forecast daily closing prices, reaching a Mean Squared Error (MSE) of 0.004 on the test dataset, demonstrating accurate short-term predictions based on historical data.

• Personal Portfolio Website

August 2024

Tools: HTML, CSS, JavaScript, GitHub Pages



- Designed and developed a responsive personal portfolio website showcasing my skills and projects, with a modern, clean, and interactive user interface.
- Implemented custom CSS styling and JavaScript for enhanced user experience, including smooth scrolling, animated elements, and dynamic content.

• Insights into ChatGPT Research

May 2023

Tools: Python, BeautifulSoup, Google Scholar API, Pandas, NLTK, spaCy, LDA



- Applied web scraping, NLP preprocessing, and machine learning (LDA) to analyze research trends and key topics in ChatGPT studies.

• Social Media Analysis of ChatGPT (Twitter and Reddit)

April 2022

Tools: Python, Pandas, NLTK, spaCy, LDA



- Scraped and analyzed Twitter and Reddit data on ChatGPT, using sentiment analysis and topic modeling to uncover community insights.

HONORS AND AWARDS

• Deans List

Multiple Semesters (Fall 2014, Winter 2015, Fall 2015, Winter 2016)

Jundi Shapur University of Technology

- Recognized for consistent high academic performance over multiple semesters.
- Demonstrated exceptional academic dedication and achievement, placing in the top 10% of the class.

• Annual JSU Programming Contest Winner

September 2015

Jundi Shapur University of Technology

- Secured first place in the annual JSU Programming Contest, specializing in algorithm design and implementation using C++.
- Excelled in solving complex problems under rigorous time constraints, demonstrating advanced proficiency in C++.
- Outperformed other competitors, showcasing superior competitive programming skills.
- Received a certificate and a recognition plaque for outstanding performance.

SKILLS

- **Languages:** English (IELTS Academic - Overall Band Score: 8.5), Persian (Native)
- **Programming Languages:** Python, R, C++, C#, SQL
- **Virtual Reality Development:** Unity3D, Unreal Engine, VR SDKs
- **Web Technologies:** HTML, CSS, JavaScript, React
- **Machine Learning:** TensorFlow, Scikit-learn, Keras, PyTorch
- **Data Science:** R, Julia, Python scientific stack (pandas, numpy, etc.), relational databases (MySQL, Microsoft SQL Server)