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 (3.55/4.00). 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

• **Diploma of Mathematics and Physics** *September 2012*

Farhang High School Dezful, Iran

○ GPA: 19.67/20

RESEARCH INTERESTS

○ Machine Learning

○ Deep Learning

○ Natural Language Processing

○ AI in HealthCare

○ Bioinformatics

○ Multimedia App Development

SELECTED PUBLICATIONS C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION, U=UNDER REVIEW

[U.1] Samaneh Shirinnezhad, & Dr. Davoud Ghahremanlou. (2024). **Navigating Canadian Renewable Energy Landscape through Bibliometric and Machine Learning Insights**. Manuscript under review at *Int. J. of Global Warming*.

[S.1] Samaneh Shirinnezhad, & Dr. Davoud Ghahremanlou. (2024). **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]

[U.2] 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** . Manuscript under review at *Journal of Sustainability for Energy*.

EXPERIENCE

• **Upwork [🌐]** *April 2024 - Present*

Freelance Data Scientist Remote

○ Delivered data-driven solutions across diverse domains, including financial analytics, business intelligence, GIS for spatial data analysis, and social media analytics.

○ Developed custom dashboards and predictive models, enhancing client decision-making and operational efficiency.

○ Implemented advanced machine learning techniques to solve complex problems, achieving significant improvements in data-driven outcomes for various clients.

• **Digikala [🌐]** *July 2020 - October 2023*

Natural Language Processing Engineer Tehran, Iran

○ Engineered a transformer-based sentiment analysis system for Digikala reviews, significantly improving customer satisfaction insights.

○ Developed an LSTM-based sales prediction model with an accuracy of 97.01

○ Conducted deep analysis of customer feedback, identifying key factors driving product preferences and satisfaction.

○ Presented advanced NLP techniques at internal conferences, earning recognition for innovative solutions in e-commerce analytics.

- **Bartar Language School** *September 2016 - July 2020*

  English Instructor Dezful, Iran

  ◦ Taught English as a second language to speakers of other languages, focusing on improving speaking, listening, reading, and writing skills.

  ◦ Developed customized lesson plans that catered to the individual needs of students, leading to a 90% improvement in language proficiency.

  ◦ Organized and led language workshops, which were highly praised by students and led to increased enrollment in advanced courses.

SELECTED PROJECTS

- **Stock Market Prediction Analysis** *July 2024*

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

  ◦ Predicted significant stock price movements using a Random Forest model, achieving an F1 score of 72%, 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.

- **GIS - Sensor Data Mapping** *June 2024*

  Tools: R, GIS, ggplot2, Leaflet, dplyr, geosphere [O]

  ◦ Conducted spatial interpolation and k-means clustering analysis to identify patterns and anomalies in atmospheric pressure measurements along road segments.

  ◦ Developed interactive visualizations to support infrastructure planning and enhance environmental monitoring through geospatial data insights.

- **Personal Portfolio Website** *August 2024*

  Tools: HTML, CSS, JavaScript, GitHub Pages [O]

  ◦ 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 [O]

  ◦ Scraped and analyzed research papers on ChatGPT, identifying key trends and topics.

- **Social Media Analysis of ChatGPT (Twitter and Reddit)** *April 2022*

  Tools: Python, Pandas, NLTK, spaCy, LDA [O]

  ◦ Analyzed Twitter and Reddit data on ChatGPT, using sentiment analysis and topic modeling to uncover community insights.

SKILLS

◦ **Languages:** English (Advanced), Persian (Native)

◦ **Programming Languages:** Python, R, C++, C#, SQL

◦ **Web Technologies:** HTML, CSS, JavaScript

◦ **Machine Learning:** TensorFlow, Scikit-learn, Keras, PyTorch

◦ **Data Science:** R, Python scientific stack (pandas, numpy, etc.), relational databases (MySQL, Microsoft SQL Server)

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.

- **ACM Programming Contest Winner** *September 2015*

  Jundi Shapur University of Technology

  ◦ Won first place in the ACM Programming Contest at Jundi Shapur University, specializing in algorithm design and implementation using C++.

  ◦ Excelled in solving complex problems under time constraints, demonstrating advanced proficiency in C++.

  ◦ Outperformed teams from other universities, showcasing superior competitive programming skills.

CERTIFICATIONS

◦ **Google Data Analytics Professional Certificate** [1] [2] [3] [4]

◦ **Data Science Specialization**

  ∗ John Hopkins University course via Coursera.

◦ **Biology Meets Programming: Bioinformatics for Beginners**

  ∗ University of California San Diego course via Coursera.