

SAMAN MOHAMMADI

ABOUT ME

Astrophysicist and data scientist with a diverse background in computational modeling, numerical simulations, and data-driven analysis. Skilled in Python, machine learning, and statistical modeling, with hands-on experience in scientific computation using tools such as Geant4, MATLAB, and Quantum Espresso. Passionate about transforming complex datasets into actionable insights through data visualization, predictive modeling, and AI-based solutions. Experienced in both front-end and back-end web development (HTML, CSS, PHP, SQL, WordPress) and SEO optimization. Combining scientific reasoning with modern data science practices to explore complex systems and deliver innovative, data-driven results.

WORK EXPERIENCE

Start-Up and Website Developer

Odyssey Company | Nov, 2020 - Oct, 2021

- Developed and implemented a comprehensive marketing strategy for a start-up company, resulting in an increase in leads and sales
- Advised a start-up company on the development and execution of a go-to-market strategy, resulting in a successful product launch
- Wrote and edited high-quality articles, blog posts, and website copy that drove organic traffic to the company website
- Updated and maintained the company's website, ensuring all content was accurate and up-to-date
- Wrote and developed website and blog posts to engage target audiences and drive website traffic
- Wrote and designed more than 20 websites

CONTACT ME AT

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-  www.samanmohammadi.com
-  www.github.com/samanmoh1989
-  Tehran, Iran

EDUCATION

Master of Science, Astrophysics

Imam Khomeini International University, Qazvin, 2014-2016, GPA: 17.14

- Top student award for 3 years in a row

Bachelor of Science, Solid Mechanics

Islamic Azad University, Tehran, 2008-2013, GPA: 13.89

Secondary School, Noor High School, GPA: 18.32

Website Founder, Developer, and Administrator

Sciencemood / August 2020 - present

- Developed and designed the website using WordPress
- Researched and wrote blog posts, and web content that increased website traffic
- Created and implemented a content strategy that boosted website SEO rankings and improved organic search traffic
- Developed a user-friendly website
- Optimized website content for SEO and organic search visibility
- Enhanced website design to improve user experience
- Conducted keyword research to identify topics with high search volume and low competition for SEO optimization
- Developed and implemented a search engine optimization (SEO) strategy that increased organic search engine rankings

Physics Teacher

Self-Employed / Sep, 2020 - Oct, 2021

- Planning, preparing, and delivering lessons to a high standard
- Preparing textbooks, handouts, course work & homework assignments
- Collected educational information and taught to students during classes
- Conveyed subject matter and lecture to the students in a creative way
- Evaluated the students individually to identify areas of difficulty
- Ensured completion of assigned syllabus within the time frame given
- Conducted parent-teacher conferences to discuss student progress and develop strategies for improvement

COURSES

IBM Data Science Professional Certificate - IBM / Coursera

Google Advanced Data Analytics Professional Certificate - Google / Coursera

Google Data Analytics Professional Certificate - Google / Coursera

Introduction to Deep Learning & Neural Networks with Keras - IBM / Coursera

Introduction to Python for Scientific Computing - University of Colorado Boulder / Coursera

Data Science Math Skills - Duke University / Coursera

Python for Data Science and AI - IBM / Coursera

DEVELOPED WEBSITES

WWW.SAMANMOHAMMADI.COM

WWW.SCIENCEMOOD.COM

WWW.INNODENT.BIZ

WWW.DRARASHP.COM

WWW.VRMIGHTY.COM

WWW.ELITEPASSADV.COM

WWW.PETEHRAN.COM

Astrophotography Teacher

University of Applied Science and Technology Unit
47| Sep, 2009 - Jun, 2011

- Developed a student-centered approach to learning that encouraged individual creativity and exploration
- Provided individualized instruction to students with special needs, resulting in improved learning outcomes
- Utilized technology in the classroom to enhance the learning experience
- Participated in professional development activities to stay up to date on best practices
- Created a diverse range of student projects, resulting in increased student engagement and enthusiasm

Deputy CEO

Raja Rail Transportation Co., Kamand | Jan, 2005
- Oct, 2006

Supported the CEO in developing strategies to meet

business objectives

Negotiated key contracts with customers and vendors, resulting in cost savings

Collaborated with board members to develop a plan for the company, resulting in higher profitability and market share

Developed a customer loyalty program that increased customer retention

SKILLS SUMMARY

Linux

★★★★★

EinsteinPy

★★★★★

Einstein Toolkit

★★★★★

Geant 4

★★★★★

Corsika Coding

★★★☆☆

MATLAB

★★★☆☆

MCNPx

★★★★★

Quantum Espresso

★★★★★

Node Ceasar

★★★☆☆

CSS

★★★☆☆

PHP

★★★☆☆

C#, C++, C

★★★☆☆

HTML

★★★★☆

SQL

★★★★☆

Python

★★★★☆

Solidworks

★★☆☆☆

Abaqus

★★☆☆☆

INTERNSHIP

*Energy Industry Engineering and Designing (EIED) |
May-July 2013*

- Developed a presentation outlining key findings in a project, leading to a successful completion
- Researched new technologies and trends in the industry, resulting in improved processes and new ideas
- Learning and Working with PDMS and Node Ceasar
- Developed a presentation outlining key findings in a project, leading to a successful completion
- Researched new technologies and trends in the industry, resulting in improved processes and new ideas
- Learning and Working with PDMS and Node Ceasar

Data Science Projects (GitHub Portfolio)

- Developed multiple end-to-end data science and machine learning projects demonstrating strong skills in data collection, cleaning, analysis, visualization, and predictive modeling. Projects include:
- Applied Data Science Capstone (IBM) - Analyzed real-world datasets, performed feature engineering, and built classification models for location data.
- Titanic Survival Prediction - Built and compared machine learning models (Logistic Regression, Random Forest, SVM) to predict passenger survival using the Titanic dataset.
- Heart Disease Prediction - Implemented supervised learning algorithms to classify patients based on medical features, achieving high accuracy.
- NYC Taxi Fare Prediction - Conducted exploratory data analysis (EDA) and regression modeling to predict taxi fares using distance and time-based variables.
- Web Scraping & GDP Analysis - Extracted and analyzed economic data from Wikipedia using Python, Pandas, and BeautifulSoup; exported cleaned datasets for visualization.
- Binary Star Light Curve Analysis - Processed and modeled TESS telescope data using Python and Lightcurve for astrophysical pattern detection.
- All projects are available with full code, Jupyter notebooks, and documentation on GitHub:
- github.com/samanmoh1989

PAPERS

Simulation of cosmic electron synchrotron radiation in the sun's magnetic field and a typical star

20th Meeting on Research in Astronomy, May 2017

Simulation of electron synchrotron radiation with 1, 1.5 and 2 GeV energy in the magnetic field close to the neutron star

20th Meeting on Research in Astronomy, May 2017

Optical investigation of zigzag, armchair, and double-walled carbon nanotubes as infrared camera detectors using density functional theory by Quantum Espresso code

Thesis

An investigation into the synchrotron irradiation of the trapped charged particles in magnetic field of a typical star using Monte Carlo method

Master Thesis, Jun, 2013- Oct, 2016

Language

***English
Persian***