Laleh Safarzadeh, MSc

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GitHub: https://github.com/lalesafarzade/
Portfolio: https://lalesafarzade.github.io/Portfolio/

Citizenship

- US Permanent Resident (Green Card Holder), currently live in Winston-Salem, NC

Technical Skills

- **Languages:** Python, JavaScript, HTML/CSS, SQL
- **Applications:** GitHub, MongoDB, MySQL, PostgreSQL, GIT, Flask, Command Line, Tableau
- **Tools:** Spark**,** Scikit learn, TensorFlow, Seaborn, Databasing, Pandas, NumPy, Tkinter, Turtle, Sqlalchemy, Beautiful soup, Matplotlib, Plot.ly, Bootstrap, Request, D3, Geo mapping by Leaflet ,Django
- **Skills:** Data management, Data collection, Python coding, underwriting techniques

Projects 1. Recommendation system

https://github.com/lalesafarzade/Recommendation_system_Project
lalarecommend.herokuapp.com/

● Role: Sole author
● Tools: Flask, API request, Pyspark, Sklearn, Mongo dB, AWS, HTML, CSS, Pandas, Tableau, seaborn, Matplotlib, WTF_forms

This is an interactive web application which recommends movies based upon genre, director and stars. I used the latest Movielens group dataset with ~25 million ratings, by 162000 users. Initially, I extracted and merged the data, to utilize them in the recommendation system. This project was coded based upon both (i) collaborative and (ii) content-based filtering by Pyspark, Surprise and cosine similarity libraries.

Projects 2. Crime-interactive dashboard

https://github.com/lalesafarzade/Project3-crime-dashboard
https://lalesafarzade.github.io/Project3-crime-dashboard/

● Role: Leading author under team work with four teammates, creating all interactive dashboards, designing map and contribution in data cleaning.
● Tools: JavaScript, HTML, CSS, Plotly, Pandas, Flask, Highchart

I offered this idea to my teammates, and we agreed to work on this project as one of our team projects. This data was collected from the Atlanta police department website, ranging 2009 to 2022. We cleaned the data, loaded in mongo db. I designed a website with interactive dashboards and map. This website also provides a comprehensive analysis page to help users to understand safety concern and type of crimes, frequency of commitment.

Projects 3. SQL Challenge
https://github.com/lalesafarzade/sql-challenge

● Role: Sole author
● Tools: SQL, Sqlalchemy, pandas, NumPy, Seaborn, PostgreSQL

Dataset included 6 CSV file of the database of employees. Designing the tables to hold data in the CSVs, Inspecting the CSVs and sketching out an ERD of the tables. importing the CSVs into a SQL database and answering questions about the data by querying. Then importing SQL database into pandas using Sqlalchemy and visualizing by Seaborn.

Projects 4. Trivia_ API_ Quizzer
https://github.com/lalesafarzade/Trivia_API_Quizzer

● Role: Sole author
● Tools: Requests, Tkinter Libraries in Python, OOP

This is an entertainment quizzer app. I created this app using Tkinter library. All questions used in this app are from the Trivia database API. The list of questions gets updated after user runs the app.

Education

Boot Camp Certificate: Georgia Tech University– Atlanta, GA   **2021 – 2022**
Certificate in Data science and Analytics
Six-months long intensive program focusing on gaining technical programming skills, covering Excel, VBA, Python, R, JavaScript, SQL Databases, Tableau, Big Data, and Machine Learning.

Professional certification: Coursera and Udemy   **2020 – 2021**
Deep learning specialization, Convolutional neural network in TensorFlow, Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning, Python, SQL, Machine Learning, Spark

Master of Science: Shahid Beheshti University – Tehran, Iran   **2009 – 2012**
Radiation Application Engineering

Bachelor of Science: Bu Ali Sina University – Hamedan, Iran   **2003– 2009**
Physics- Solid state

Certificate and License

- SQL (Intermediate) Certificate from HackerRank   **06/2022**
  - It includes complex joins, unions, and sub-queries

- Deep learning specialization from Coursera with grade 97%   **03/2021**
  - It includes Neural Networks and Deep Learning
  - Convolutional Neural Networks
  - Structuring Machine Learning Projects
  - Sequence Models
  - Improving Deep Neural Networks: Hyperparameter Tuning, Regularization

- Convolutional Neural Networks in TensorFlow with grade 99.3%   **02/2021**
- Spark and Python for Big Data with PySpark from Udemy   **01/2021**
- Complete SQL Bootcamp: Go from Zero to Hero from Udemy   **11/2020**
- Tools for Data Science from Coursera with grade 95%   **10/2020**
- Complete Machine Learning from Udemy   **08/2020**
- Complete Python Bootcamp: Go from Zero to Hero from Udemy   **05/2020**

Awards and Honors

- Awarded the best national dissertation prize in Engineering category, Iran   **2012**
- Awarded full scholarship for attending workshop, Italy   **2014**
     International Centre for Theoretical Physics (ICTP)

Professional Experience

Therapeutic Medical Physicist   **2014 – 2016**
Department Of Radiation Oncology, Buali Hospital, Tehran, Iran

- Using analytical, and bioengineering techniques in radiotherapy to research, develop and evaluate new analytical techniques.
- Analyzing machine QA results to identify any deviation in systems performance accuracy
- Managing radiotherapy QA programs, mathematical modelling, maintaining equipment and writing average five reports per day.
- planning and ensuring safe and accurate treatment of 5-10 patients per days.
- providing advice about radiation protection to our radiation staff.

Research Experience

Research Associate   **2009 – 2012**
Radiopharmaceutical Research and Development Lab, Tehran, Iran

- Implementing analytical techniques to investigate radioisotopes purity
- Analyzing radiopharmaceuticals biodistribution in small animals,
- Chemical synthesis, paper chromatography for chemical ligand and radioisotope radiolabeling
- Writing reports and manuscripts, presenting outcomes in scientific journals and conferences

Peer-Reviewed Journal Publications

1. **Laleh Safarzadeh**; 175 Yb-TTHMP as a good candidate for bone pain palliation and substitute of other radiopharmaceutical, Indian Journal of Nuclear Medicine, 2014; 29(3); 135-141.
2. **Laleh Safarzadeh**, MG Maragheh, Akbar Anvari, SMR Aghamiri, S Shirvani-Arani, A Bahrami-Samani, "Production and Quality Control of 175 Yb-EDTMP for Pain Palliation of Bone Metastases", Journal of Nuclear Science and Technology, 2013; 46: 48-55.
3. Akbar Anvari, **Laleh Safarzadeh**, "Assessment of Molybdenum powder discharge from TRR due to a human error", Iranian Journal Measurement and Radiation Safety, 2013; 1 (1): 9-14
4. **Laleh Safarzadeh**, MG Maragheh, Akbar Anvari, SMR Aghamiri, Simindokht Shirvani- Arani, "Production, Radiolabeling and Biodistribution Studies of 175 Yb-DOTMP as Bone Pain Palliation", Iranian Journal of Pharmaceutical Sciences, 2012; 8(2); 135-141.
5. Akbar Anvari, **Laleh Safarzadeh**, "Assessment of the total effective dose equivalent for accidental release from the TRR", Annals of Nuclear Energy, 2012; 50: 251-255.