Akarshan Jaiswal

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Summary

Data Scientist with expertise in Python, R, and TensorFlow, known for leading neural network-based tool development at Nissan Digital India. Notable projects include a Japanese to English translator and COVID-19 data analysis, driving impactful data science solutions. Skilled in designing ML models and building neural networks, with a collaborative spirit and strong problem-solving abilities.
Portfolio: akarshan-jaiswal.github.io

Technical Skills and Interests

Programming Languages: Python, Java, Javascript
Notable Libraries: TensorFlow, Pandas, Numpy, Seaborn, D3
Dev Tools: VScode, Postman, IntelliJ, Pycharm
Gen AI Tools: Bard - Gemini Pro, ChatGPT-3.5, Dall-e, Microsoft Co-pilot
CI/CD Tools: Git, Github, Gitbash, BitBucket, Jenkins
Databases: MongoDb, Postgre, Postgis, mySql, MSSQL
Operating Systems: Windows, Linux
Relevant Coursework: Data Mining & Machine Learning, Data Visualization, Biological Inspired Learning, Database Management System, Software Engineering.
Soft Skills: Problem Solving, Self-learning, Presentation, Adaptability, Team Player, Team Leader, Mentor

Education

• **Master of Science(M.Sc.) in Data Science** *2023-2025*
School of Mathematical and Computer Sciences ,Heriot-Watt University Edinburgh, Scotland, UK

- Developed proficiency in statistical analysis, machine learning, deep learning, Python, and R. Also assisted with skill development in handling large datasets to derive actionable insights for informed decision-making.
- Received "A" Grade towards dissertation thesis presented towards completion of Master's Degree.

• **Bachelor of Technology(B.Tech) in Computer Science and Engineering** *2014-2018*
Amity School of Engineering & technology, Amity University Lucknow Campus, India

- Developed expertise in software development, solving complex problems and designing efficient solutions.

Experience

• **Software Engineer 2 and Software Development Engineer** *December 2018 - December 2022*
Nissan Digital India Trivandrum,India

- Lead a team of 5 for development of Python based Neural Network using TensorFlow for Japanese to English Translation tool Development.
- Participated in various PLM based activities and Research based optimization project.
- Worked in many different projects covering different domains such as Data Science, PLM, Web development, Schedule optimisation and algorithm optimization applications.
- Developed various Advanced SQL based functions for a Web application with thousands of live users.
- Developed a requirement capturing tool with CRUD based SQL functions developed using Java and deployed in AWS.
- Performed Data Analysis for Optimization of "Data Cleaning" process of a Data Science based application. Resulting in resolving a major bug and increasing overall efficiency by 15%.
- Extracted Data using Python from various sources [Excel,JSON, XML etc] for loading in database.
- Researched and Implemented various Proof of concepts.
- Strong knowledge on creating Workflow, Life-cycle implementation and Agile Methodologies such as Kanban and Scrum.
- Hands-on experience with data analysis, performance monitoring, code profiling and system debugging.

• **Student Staff** *July 2023 - August 2023*
Heriot-Watt University Edinburgh, Scotland, UK Online

- Raised funds for Access bursaries as part of 6 member team, helping underprivileged or university students with an underrepresented background.
- Connecting and networking with different alumni, to raise awareness and funds in the amount of £1500

PROJECTS

- **Japanese to English Language Converter**

A context based Japanese to English document translator.

  - Developed a deep neural network model - LSTM, that learns from a custom dataset, and translates text from Japanese to English.
  - Designed the solution to work on a local system with no dependency on the Internet or any web service.
  - Integration of AI model with web application using Flask and Python.
  - Development time - 3 months, Dataset size - 80000 distinct samples, Accuracy - 81%

- **Comparison and Evaluation of Neural Network Architectures**

Implementation of many types of Neural Network architectures with respect to different Mathematical problems.

  - Conducted a detailed literature review on many existing neural network architectures and their respective applications.
  - Developed a standard evaluation framework for comparison of these architectures.
  - Generated the data-sets for evaluation and training purposes.
  - Implemented and trained different neural networks.
  - Example of the Architectures: CNN, RNN, LSTM, Transformer, VGG16
  - Technology Used: Python.
  - Libraries Used: TensorFlow, Numpy, Matplotlib, Pandas.
  - External Dataset used: IMDb Movie review, CIFAR10 image dataset

- **Covid-19 Data Analysis**

Statistical analysis of total COVID-19 cases, based on different factors and Geographical regions.

  - Visualization and Exploratory Data Analysis of world-wide cases of Covid-19 done using various datasets.
  - Analysis covered upto 93% of recorded covid cases till Feb 2023
  - Executed different types of Clustering, made use of Boxplots and other data consolidation techniques for processing the datasets.
  - Implementation of different types of Graphs and charts such as Choropleth, Scatterplot, Linegraph and Streamgraph using D3 library.
  - Implementation of Interactive Dashboard with dynamic shifting and switching data based on User inputs.
  - Technology Used : Python, JavaScript, CSS, HTML.
  - Libraries Used: Numpy, Matplotlib, Pandas, D3.