# Akarshan Jaiswal

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## Professional 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.

## Technical Skills and Interests

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| **Programming Languages:**  | Python, Java, JavaScript |
| **Tools and Libraries:** | TensorFlow, Pandas, Numpy, Seaborn, D3 |
| **Development Tools:**  | VS Code, Postman, IntelliJ, PyCharm |
| **CI/CD Tools:**  | Git, GitHub, BitBucket, Jenkins |
| **Gen AI Tools:** | Bard - Gemini Pro, ChatGPT-3.5, Dall-e, Microsoft Co-pilot |
| **Databases:**  | MongoDB, PostgreSQL, 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, Collaborator, 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.

**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, algorithms, and system architecture.
Gained experience in solving complex problems and designing efficient solutions. Garnered skill in programming languages like Java, C++, and Python

## Scholarships

Edge AI - Intel Edge AI Scholarship (December 2019 - March 2019)

Received Level-I Scholarship from Intel under Intel Edge AI Scholarship at Udacity.

## Achievements

**High Five Award - Nissan Digital India** (July 2021)

- Received the Team Award at the Nissan Annual event for development of an Online Platform
 for capturing Test Car Requirements.

**High Five Award - Nissan Digital India** (November 2022)

- Received the Team Award at the Nissan Annual event for contributions
 towards a project encompassing various data engineering activities.

**Grade "A" in Dissertation - Heriot-Watt University** (June 2024)

- Dissertation titled "Comparison and Evaluation of Neural Network Architectures".

## Professional Experience

**Nissan Digital India, Thiruvananthapuram, India** (Dec 2018 - Dec 2022)
Software Engineer 2 and Software Development Engineer

• Lead a team of five 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 and more] 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.

• Direct experience with data analysis, performance monitoring, code profiling and system debugging.

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

* Raised funds for access bursaries as part of a 6-member team, helping underprivileged or underrepresented university students.
* Networked with alumni to raise awareness and funds, accumulating £1500.

## Projects

**Portfolio Website:** [akarshan-jaiswal.github.io](https://akarshan-jaiswal.github.io/)

**Japanese to English Language Converter**

• A context-based Japanese to English document translator.

• Developed a deep neural network model - LSTM, which learns from a custom dataset, and translates text
from Japanese to English.

• Provided context-based translation, to give meaningful outputs.

• 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 datasets for evaluation and training purposes.

• Implemented and trained different neural networks.

• Technology Used: Python.

• Libraries Used: TensorFlow, Numpy, Matplotlib, Pandas.

**Covid-19 Data Analysis**

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

• Visualization and Exploratory Data Analysis of world-wide cases of Covid-19 done using various datasets.

• Executed several types of Clustering, made use of Boxplots and other data consolidation techniques for processing the datasets.

• Implementation of distinct types of Graphs and charts such as Choropleth, Scatterplot, Line graph 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.