Weekly Report: Shalha Mucha Alpha AI

Week-02 (April 28 - May 2)

Machine Learning Specialization

Course: Advanced Learning Algorithm

- Completed the full course with made documentation
  Reviewed the layers of a neural network.
- Learned forward propagation in depth with hands-on coding examples.
- Studied efficient implementations of neural networks.
- Refined the basics of matrix multiplication through coding exercises.
- Learned how to implement a neural network model using TensorFlow. Separate functions are used to design the network architecture and compile the model before training. Also explored how these functions work internally.
- Learned about the integration of softmax regression with neural networks for multiclass classification.
- Learned about the decision tree algorithm with hands-on experience.

Git and GitHub

● Gained hands-on experience with basic Git functionalities, including version control and repository management.

Session on Object-Oriented Programming (OOP)

- Revisited the fundamental principles of Object-Oriented Programming (OOP) in Python, covering its objectives, structure, and standard practices.
- Explored constructors in Python classes, including their purpose and various types.
- Studied different types of methods used in OOP.

- Gained clarity on the role of the self parameter in maintaining instance-specific data.
- Reviewed the four core pillars of OOP: encapsulation, abstraction, inheritance, and polymorphism, and made a complete documentation.

Coding Practice

- Solved several Easy and Medium-level problems on LeetCode to strengthen problem-solving and algorithmic skills.

Session on Agile Methodology

- Gained knowledge of agile project management frameworks, including Scrum and Kanban, with a focus on Scrum, which is predominantly used at Cloudly.
- Studied the core roles within the Scrum framework, such as the Scrum Master, Product Owner, and Development Team.