

# Personalized Learning Plan

## Create Study Schedule

Study Plan for Smart Guidance and Support System for Dragline Operator

Week 1-2:

Module I - Introduction to Smart Guidance Systems

Understanding the concept of smart guidance systems and their applications in various industries.

Week 3-4:

Module II - Computer Vision Fundamentals

Introduction to computer vision and its role in developing intelligent systems for obstacle detection and path following.

Week 5-6:

Module III - Machine Learning for Depth Perception

Exploring machine learning algorithms for depth perception using camera inputs and how they can be implemented in the smart guidance system.

Week 7-8:

Module IV - Database Management with Pandas/SQL

Learning how to manage data using Pandas and SQL for efficient storage and retrieval of information in the system.

Week 9-10:

Module V - Utilizing YOLO and OpenCV

Understanding the use of YOLO and OpenCV libraries for object detection and image processing in the smart guidance system.

Week 11-12:

Module VI - Rule-Based Reasoning

Exploring the importance of rule-based reasoning in correlating depth cues with real-world distances for effective decision-making.

Week 13-14:

Module VII - Integration and Testing

Integrating all components of the system and conducting testing to ensure functionality and performance.

Week 15-16:

Module VIII - Safety and Performance Optimization

Addressing safety concerns and optimizing the performance of the smart guidance system for reliable operation.

Week 17-18:

Module IX - Real-World Applications and Future Prospects

Exploring the potential applications of the system beyond coal mining, such as in robotics, self-driving vehicles, and surveillance systems.

Week 19-20:

Module X - Project Presentation and Evaluation

Preparing a project presentation showcasing the smart guidance system and evaluating its

effectiveness in solving the identified problem statement.

## **End of Plan**

Thank you for using Aura's Learning Plan Generator!