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Final Project



PROJECT TITLE



Predictive Analysis in digit classification: A
Data-driven Approach



AGENDA

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2. Problem Statement
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6. Key Features
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PROBLEM STATEMENT



The task is to build and compare the performance of CNN, RNN, and ANN models for classifying images of handwritten digits. The goal is to achieve high accuracy in recognizing and classifying these digits.



PROJECT OVERVIEW



The project involves training three types of neural network models (CNN, RNN, and ANN) on the MNIST dataset. Each model will be evaluated based on its accuracy in classifying the images. The models will then be compared to determine which one performs the best for this classification task.



WHO ARE THE END USERS?



The end users of this project could include developers, researchers, and practitioners in the field of machine learning and computer vision. The models developed in this project could be used in various applications such as optical character recognition (OCR) and automated data entry.



YOUR SOLUTION AND ITS VALUE PROPOSITION



The solution involves building and training three different types of neural network models to classify handwritten digits. The value proposition lies in providing an accurate and efficient digit recognition system that can be used in various applications where recognizing handwritten digits is required.

THE WOW IN YOUR SOLUTION



- Use of three different types of neural network models (CNN, RNN, and ANN) for digit classification.
- Training and evaluation on the MNIST dataset.
- Comparison of the performance of the three models based on their accuracy.



MODELLING



- **CNN Model:** Achieved an accuracy of around 99% in classifying handwritten digits.
- **RNN Model:** Achieved an accuracy of around 97% in classifying handwritten digits.
- **ANN Model:** Achieved an accuracy of around 96% in classifying handwritten digits.



RESULTS



The CNN model outperformed the RNN and ANN models in classifying handwritten digits in the MNIST dataset. This suggests that for image classification tasks, CNNs are more effective compared to RNNs and ANNs.

DemoLink:

https://drive.google.com/file/d/14BUhgHYdBsC33tAD_1JpXz0OBDLEKnDW/view?usp=drivesdk

