DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

HANDWRITTEN DIGIT RECOGNITION

USING DEEP LEARNING

PROJECT BY

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OBJECTIVE

1. *Promote AI Advancements: Showcasing the power of deep learning and its application to image recognition and classification.*
2. *User-Friendly Interface: Create a web application that offers a seamless and intuitive user experience.*
3. *Digit Classification: Build a deep learning model capable of accurately identifying and classifying handwritten digits ranging from 0 to 9.*
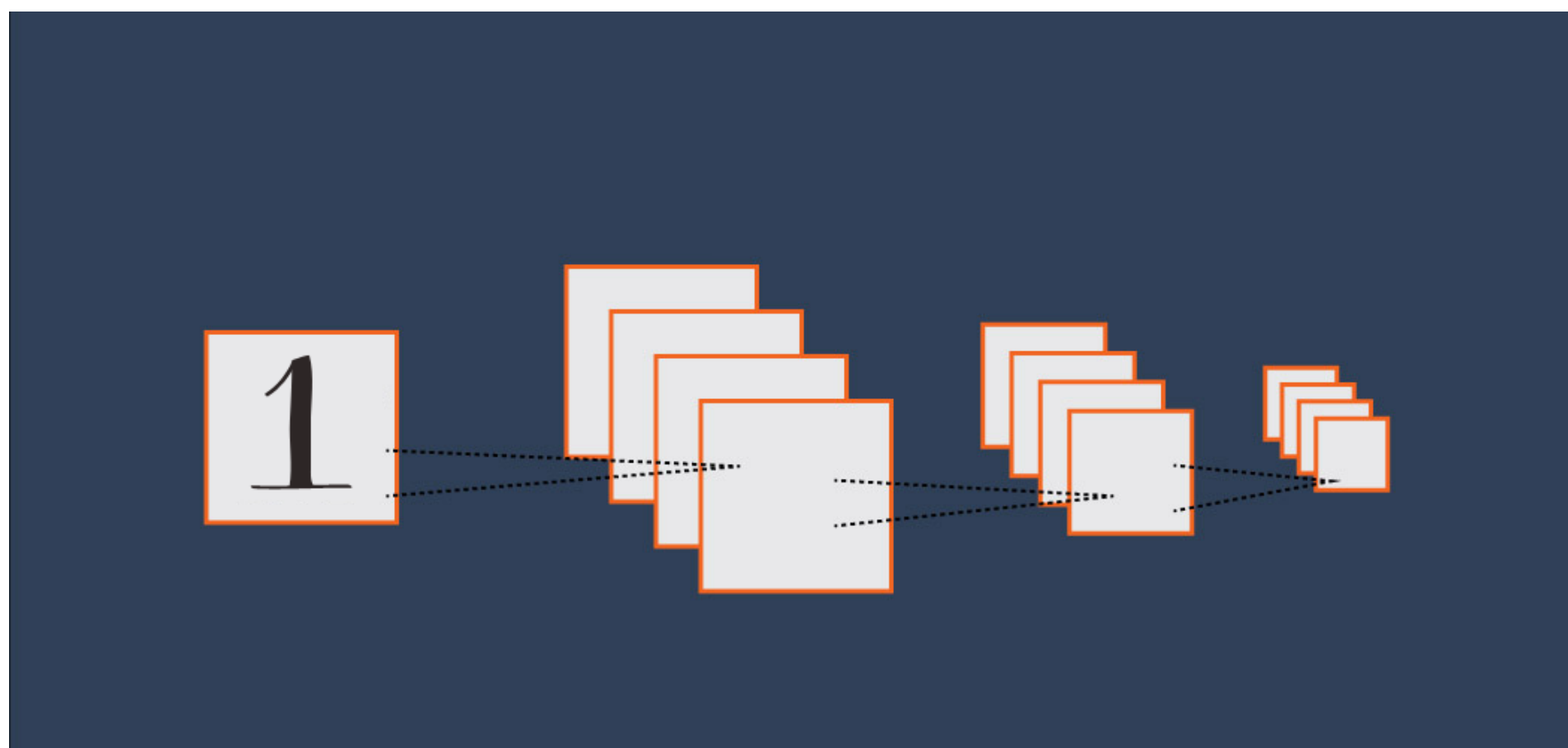
MOTIVATION

- *Developing a highly accurate digit classification model to improve efficiency and reduce errors.*
- *Promoting transparency by providing insights into the model's decision-making process and visualizing features.*

REQUIREMENTS

1. *Dataset: MNIST(Modified National Institute of Standards and Technology)*
2. *Deep Learning Framework: PyTorch, TensorFlow, Keras.*
3. *Model Architecture: CNN(Convolutional Neural Network)*
4. *User Interface (UI)*

APPLICATIONS

Postal Services: Handwritten zip codes or addresses on envelopes can be accurately recognized and classified.

Banking and Finance: Cheques or handwritten forms can be automatically processed, reducing errors and saving time for banks and financial institutions.

Document Digitization: Handwritten documents, such as historical manuscripts or medical records, can be digitized and indexed accurately, facilitating data retrieval and analysis.