Introduction to Domain

Artificial Intelligence and Machine Learning

Artificial Intelligence (AI) enables machines to perform tasks that typically require human intelligence, such as decision-making, speech recognition, and problem-solving.

Machine Learning (ML) is a subset of AI that allows systems to learn from data and improve their performance without explicit programming.

Usages & Applications:

- **Healthcare**: Disease prediction, medical imaging
- **Finance**: Fraud detection, stock market analysis
- **Retail**: Personalized recommendations, demand forecasting
- **Autonomous Vehicles**: Self-driving technology
- **Robotics**: Smart automation in industries
- **Customer Service**: Chatbots, virtual assistants

AI and ML are transforming industries, making processes smarter and more efficient.

Introduction to Title

AI Based Personality Improvisation using Machine Learning

The availability of high-dimensional and fine-grained data about human behaviour has made researching and observing human behaviour much easier. For example, mobile sensing studies and data collected from daily activities have greatly impacted how psychologists conduct research and administer personality assessments.

In this direction, machine learning models have the potential to revolutionize research and assessment in personality psychology. Algorithms can handle large datasets, including thousands of attributes, without issues of collinearity. Additionally, ML algorithms are highly efficient at recognizing patterns in datasets that humans may not be able to detect. These ML models can lead to more accurate, objective, and automated personality assessments.

Another example would be social media, where people express their likes, thoughts, feelings, and opinions. Machine learning models have been effectively using this data to predict individuals' "Big Five" (OCEAN) personality traits. Various supervised machine learning algorithms, such as Naïve Bayes and Support Vector Machines, are widely used in industries to predict personality traits. Additionally, researchers have recently started applying unsupervised learning methods to identify other psychological constructs in digital data