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COURES TITTLE: EXPERT SYSTEM AND MACHINE LEARNING (ES & ML)

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ASSIGNMENT ON;

COM 423

EXPECT SYSTEM AND MACHINE LEARNING

5 REAL LIFE APPLICATIONS, ALONGSIDE A BRIEF EXPLANATION AND WEBSITE OF THE FOLLOWING:

1 MACHINE LEARNING SYSTEM

2 VISUAL PERCEPTION

3 SPEECH RECOGNITION.

MACHINE LEARNING SYSTEM APPLICATION.

1. FRAUD DETECTION:

Fraud detection refers to the processes and techniques used to identify and prevent fraudulent activities. It is essential in industries like banking, insurance, e-commerce, and telecommunications to protect against financial losses and maintain trust.

Application: Identifying fraudulent activities in financial transactions.

Example: PayPal's Fraud Detection System

Website: PayPal

2. PREDICTIVE MAINTENANCE:

Predictive maintenance is a proactive approach to maintaining equipment and systems. It involves using data analysis tools and techniques to detect anomalies in the operation and possible defects in equipment and processes so that maintenance can be performed just in time to avoid unexpected equipment failures and costly downtime.

APPLICATION: Predicting equipment failures and scheduling maintenance.

Website: GE Predix

3. PERSONALIZED MARKETING:

Personalized marketing, also known as one-to-one marketing, involves tailoring marketing efforts to individual customers based on data and insights about their preferences, behaviors, and demographics. This approach leverages advanced data analytics, customer segmentation, and technology to deliver more relevant and targeted messages, offers, and experiences.

APPLICATION: Tailoring marketing messages and offers to individual customers.

Example: Salesforce Marketing Cloud

Website: Salesforce

4. HEALTHCARE PREDICTIVE ANALYTICS:

Healthcare predictive analysis involves using data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes based on historical data in the healthcare sector. .

APPLICATION: Predicting patient outcomes and optimizing treatment plans.

Website: IBM Watson for Oncology

5. FINANCIAL MARKET ANALYSIS:

Financial market analysis involves evaluating financial markets to understand and predict their behavior, with the goal of making informed investment decisions.

APPLICATION: Analyzing market trends and making investment recommendations.

Website: Bloomberg Terminal

VISUAL PERCEPTION

1. SELF-DRIVING CARS: Autonomous vehicles use visual perception to detect and interpret objects, traffic signals, and road conditions to navigate safely.

Website: Tesla

2. MEDICAL IMAGING: AI-driven visual perception is used in radiology to analyze medical images, aiding in diagnosis and treatment planning.

Website: Zebra Medical Vision

3. SECURITY AND SURVEILLANCE: Facial recognition systems use visual perception to identify and verify individuals for security purposes.

Website: Clearview AI

4. RETAIL ANALYTICS: Visual perception technology helps retailers analyze customer behavior and store traffic through in-store cameras.

Website: RetailNext

5. ROBOTICS: Industrial robots use visual perception to perform tasks such as assembly, packaging, and quality control in manufacturing environments.

Website: Fanuc

SPEECH RECOGNITION

1. **VIRTUAL ASSISTANTS**: Virtual assistants like Siri, Alexa, and Google Assistant use speech recognition to respond to user commands and queries.

Website: Amazon Alexa

2. **TRANSCRIPTION SERVICES**: Speech recognition is used to transcribe spoken content into text for meetings, interviews, and lectures.

Website: Otter.ai

3. **CUSTOMER SERVICE**: Automated customer service systems use speech recognition to understand and respond to customer inquiries.

Website: Nuance

4. **LANGUAGE LEARNING**: Speech recognition helps language learners practice pronunciation and speaking skills.

Website: Rosetta Stone

5. **ACCESSIBILITY**: Speech recognition technology provides accessibility solutions for individuals with disabilities, enabling them to control devices and communicate effectively.

Website: Voiceitt