Originality report

COURSE NAME
BACS 3074 Artificial Intelligence

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FILE NAME
RDS2S2G4_Group 7

REPORT CREATED
Apr 29, 2025

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1 of 20 passages
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The integration **of artificial intelligence (AI**) into the healthcare sector **has opened new** avenues **for** enhancing patient care, particularly through **the** development **of emotion recognition**

Top web match

The advent **of Artificial Intelligence (AI**) and machine learning **has opened new** possibilities **for** addressing these challenges by automating **the** process **of emotion recognition** through facial expression…

Emotion recognition for enhanced learning: using AI to detect ... https://slejournal.springeropen.com/articles/10.1186/s40561-025-00374-5

2 of 20 passages
Student passage FLAGGED

systems are designed **to** detect **and interpret human emotions** by analyzing **various** data **inputs such as facial expressions**, vocal tones, **and**

Top web match

Emotion AI, also known as sentiment analysis or affective computing, refers to the ability of AI **systems to** recognize, analyze, **and interpret human emotions** through **various inputs, such as** text,…

emotion ai: understanding emotions through artificial intelligence https://www.researchgate.net/publication/380672553_EMOTION_AI_UNDERSTANDING_EMOTIONS_THROUGH_ARTIFICIAL_INTELLIGENCE

3 of 20 passages
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Advancements in artificial intelligence (AI) and affective computing have enabled the development of systems capable of analyzing multimodal data—including facial expressions, **speech patterns, and**

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Recent **advancements in artificial intelligence (AI**), natural language processing (NLP), **and affective computing have enabled** VAs to detect emotional cues from **speech**, including vocal **patterns**, tone, …

Exploring Emotion-Aware Voice Assistants Through a Role ... - arXiv https://arxiv.org/html/2502.15367v1

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4 of 20 passages

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Data Privacy and Ethical Considerations: Emotion recognition **systems often require access to sensitive personal data**, raising concerns about privacy **and**

Top web match

Data Privacy and Security: AI **systems** in mental healthcare **often require access to sensitive** and **personal** patient **data**, including medical records, treatment histories, **and** even real-time emotional…

Artificial intelligence in positive mental health: a narrative review https://pmc.ncbi.nlm.nih.gov/articles/PMC10982476/

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5 of 20 passages

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Integrating **emotion recognition** technologies into healthcare **has the potential to revolutionize mental health** diagnostics and treatment. By providing objective, continuous monitoring of…

Top web match

Emotion recognition is another groundbreaking use case in wearable technology that **has the potential to revolutionize mental health** management. Wearables can identify emotions and offer important…

Impact of AI Wearable Implementation on Different Industries https://appinventiv.com/blog/ai-and-wearable-technology/

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6 of 20 passages

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…in NLP-based emotion recognition is accurately interpreting context. Emotions **in** language are **often implied rather than explicitly stated**

Top web match

In contrast, **in** cultures such as China or Korea, deep gratitude is **often implied rather than explicitly stated**, and excessive verbal expressions of thanks may ...

A Cultural Symphony: Honoring Emotional Diversity (Part 1 of 5) https://coachtrainingworld.com/a-cultural-symphony-honoring-emotional-diversity-part-1-of-5/

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7 of 20 passages

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…including healthcare, education, customer service, and entertainment. The primary **modalities for emotion recognition encompass** speech, **text**, facial expressions, **and physiological signals**

Top web match

Modalities for emotion recognition encompass text, visuals, auditory signals, **and physiological signals**. Each offers unique insights and varies in terms of effectiveness and accessibility.

Exploring contactless techniques in multimodal emotion recognition https://link.springer.com/article/10.1007/s00530-024-01302-2

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8 of 20 passages

Student passage CITED

Speech Emotion Recognition (SER) **involves analyzing vocal** attributes **such as pitch**, tone, **rhythm**, and energy **to** identify **the speaker's emotional**

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Emotion recognition from **speech involves analyzing vocal** cues **such as** tone, **pitch**, and **rhythm to** determine **the speaker's emotional** state. While text-based ...

Personalized Emotion Detection Adapting Models to Individual ... https://www.ijisrt.com/assets/upload/files/IJISRT24OCT1478.pdf

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While significant progress has been made in emotion recognition, several research **gaps** remain

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While significant progress has been made in the development of **emotion recognition** systems using AI and deep learning, there remain **several** critical **gaps** in the literature. First, most existing…

Emotion recognition for enhanced learning: using AI to detect ... https://slejournal.springeropen.com/articles/10.1186/s40561-025-00374-5

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10 of 20 passages

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…variability in emotional expression, and diverse user populations.Ethical Considerations: **The** deployment **of** emotion recognition systems **raises concerns about privacy, consent, and potential misuse of**

Top web match

The use **of** AI to monitor students' emotions **raises concerns about privacy, consent, and** the **potential** for **misuse of** data (Crawford & Calo, 2016).

Emotion recognition for enhanced learning: using AI to detect ... https://slejournal.springeropen.com/articles/10.1186/s40561-025-00374-5

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Traditional **machine learning tasks such as classification**, regression, **clustering**

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Scikit-Learn for Traditional ML. Scikit-Learn is ideal for classic **machine learning tasks, such as** regression, **classification**, and **clustering**, where deep learning is not required.

A Comparative Look at TensorFlow, PyTorch, and Scikit-Learn https://blog.stackademic.com/mastering-data-science-frameworks-a-comparative-look-at-tensorflow-pytorch-and-scikit-learn-ea5e8f50a578

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Deep learning tasks: image recognition, speech recognition, natural language processing

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Both machine learning and deep learning algorithms can be trained on labeled or unlabeled data, depending on the task and algorithm. Machine learning and **deep learning** are both applicable to **tasks**…

What is Deep Learning? Applications & Examples | Google Cloud https://cloud.google.com/discover/what-is-deep-learning

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13 of 20 passages

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…Speech Set (TESS)Description: Contains recordings of two actresses speaking **a set of 200 target words in** different emotional states (happy, sad, angry, **disgust, fear, pleasant surprise, and neutral**).

Top web match

A set of 200 target words were spoken **in** the carrier phrase "Say the word _____' by two actresses (aged 26 and 64 years) and recordings were made of the set portraying each of seven emotions (anger, …

Toronto emotional speech set (TESS) https://borealisdata.ca/dataset.xhtml?persistentId=doi%3A10.5683%2FSP2%2FE8H2MF

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What it captures: **Spectral contrast** measures **the difference between peaks and valleys of** the **spectral energy** distribution in different frequency bands.Interpretation: In the Spectral Contrast…

Top web match

Spectral contrast is **the difference** in amplitude (dB) **between peaks and valleys of spectral energy**. Spectral contrast was varied by adjusting the amplitude of the sinusoidal envelope to values of 5,…

Auditory Selectivity for Spectral Contrast in Cortical Neurons and ... https://pmc.ncbi.nlm.nih.gov/articles/PMC6989003/

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15 of 20 passages

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Proportion of actual positives that were correctly identified.

Top web match

Recall (Sensitivity): The **proportion of actual positives that were correctly identified**. Specificity: The proportion of actual negatives that were correctly identified.

Accuracy, precision, and recall in deep learning - CUDO Compute https://www.cudocompute.com/blog/accuracy-precision-recall-in-deep-learning

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Harmonic mean of precision and recall, balancing both metrics.

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The F1 Score is important for evaluating YOLO11 models because it provides a **harmonic mean of precision and recall, balancing both** false positives and false ...

Performance Metrics Deep Dive - Ultralytics YOLO Docs https://docs.ultralytics.com/guides/yolo-performance-metrics/

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17 of 20 passages

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…subtle. Therefore, achieving 100% accuracy strongly suggests possible overfitting. **Overfitting occurs when a model** memorizes **the training data** rather than generalizing well **to new, unseen data**.

Top web match

Overfitting occurs when a machine learning **model** learns to perform well on **the training data** but fails to generalize **to new, unseen data**. In TensorFlow models, overfitting typically manifests as high…

ML | Underfitting and Overfitting - GeeksforGeeks https://www.geeksforgeeks.org/underfitting-and-overfitting-in-machine-learning/

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Model robustness refers to a model's ability to maintain performance when encountering new, unseen data. In this project, although…

Top web match

1.1 Understanding Model Robustness. **Model robustness refers to a model's ability to maintain performance** across diverse datasets. Robust models can effectively adapt to new information and variations…

Cross-Validation: Ensuring Model Robustness - Engineer's Planet https://engineersplanet.com/cross-validation-ensuring-model-robustness/

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BMC Psychology (2024, 24 Feb) **Development and application of emotion recognition technology — a systematic literature review**

Top web match

Development and application of emotion recognition technology -- a systematic literature review bmc psychology full text Submit manuscript

Table 7 Overview of emotion recognition applications https://bmcpsychology.biomedcentral.com/articles/10.1186/s40359-024-01581-4/tables/7

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Calvo, R. A., & D'Mello, S. (2010). **Affect detection: An interdisciplinary review of models, methods, and their applications**. IEEE Transactions on Affective Computing, 1(1), 18-37.

Top web match

Affect Detection: An Interdisciplinary Review of Models, Methods, and Their Applications. Abstract: This survey describes recent progress in the field of Affective Computing (AC), with a focus on…

Affect Detection: An Interdisciplinary Review of Models, Methods ... https://ieeexplore.ieee.org/document/5520655/
