

PREMIER UNIVERSITY

DEPT. OF COMPUTER SCIENCE & ENGINEERING



PROJECT PROPOSAL AIL

<i>Proposal Name</i>	<i>Emotion Detection using Artificial Intelligence.</i>
<i>Course Name</i>	<i>Artificial Intelligence Laboratory.</i>
<i>Course Code</i>	<i>AIL-318</i>
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<i>Submitted To</i>
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<i>SECTION</i>	<i>A₂</i>

Introduction: *With the emotion recognition system, AI can detect the emotions of a person through their facial expressions. Detected emotions can fall into any of the six main data of emotions: happiness, sadness, fear, surprise, disgust, and anger. For example, a smile on a person can be easily identified by the AI as happiness.*

Objectives:

- ❖ *To conduct a comprehensive literature review on existing emotion detection models and algorithms.*
- ❖ *To collect and preprocess a publicly available dataset of facial expressions and speech recordings for training and evaluating the deep learning model.*
- ❖ *To develop a deep learning model for emotion detection that can accurately detect emotions in individuals based on their facial expressions and speech.*
- ❖ *To evaluate the performance of the developed model on the collected dataset and compare it with existing state-of-the-art models.*
- ❖ *To make the developed model available as open-source software to encourage its use and promote further research in this field.*

Significance in the Field of AI:

Emotion detection is a crucial task in the field of artificial intelligence and has numerous applications in various fields such as healthcare, education, and customer service, among others. The ability to accurately detect emotions in individuals can help in improving the quality of services provided in these fields and enhance the overall experience for users.

Artificial intelligence and machine learning have made it possible to automate the process of emotion detection, reducing human error and saving time. This project aims to develop a deep learning model for emotion detection that can accurately detect emotions in individuals based on their facial expressions and speech.

The successful completion of this project will have a significant impact on the field of artificial intelligence, demonstrating the potential of deep learning for emotion detection. The developed model will be made available as open-source software, promoting further research in this field and encouraging its use in other applications.

Moreover, the field of emotion detection using AI is constantly evolving, and this project will contribute to the existing body of knowledge by demonstrating the potential of deep learning for emotion detection. The project will also provide a foundation for future research in this field, leading to even more advanced and accurate models in the future.

Problem Statement: *Manually detecting emotions in individuals is a time-consuming and subjective task. There is a need for a robust and accurate method of emotion detection that can help automate this process and reduce human error. Current emotion detection models have limitations such as low accuracy, inability to handle multi-modal data, and poor generalization performance. This project aims to overcome these limitations by developing a deep learning model that can accurately detect emotions in individuals.*

Literature Review:

Emotion detection using AI has been an active area of research in recent years. Many studies have used machine learning algorithms such as support vector machines, random forests, and deep neural networks for this task. These studies have shown promising results, but there is still room for improvement in terms of accuracy and robustness.

Expected Outcomes:

The main outcome of this project is the development of a deep learning model that can accurately detect emotions in individuals based on their facial expressions and speech. The model will be trained and evaluated on a publicly available dataset of facial expressions and speech recordings. The expected performance of the model will be compared to existing state-of-the-art models to demonstrate its superiority. The developed model will be made available as an open-source software to encourage its use in other applications and to promote further research in this field.

Expected Impact:

The successful completion of this project will have a significant impact on various fields that require emotion detection such as healthcare, education, and customer service. The developed model can be used to automate the process of emotion detection, reducing human error and saving time. Additionally, the open-source nature of the model will encourage its use and promote further research in this field, leading to even more advanced and accurate models in the future.

Conclusion:

Emotion detection is an important task with numerous applications in various fields. With the advancements in artificial intelligence and machine learning, it has become possible to automate the process of emotion detection. This project aims to develop a deep learning model for emotion detection that can accurately detect emotions in individuals based on their facial expressions and speech. The successful completion of this project will have a significant impact on various fields that require emotion detection, and the open-source nature of the model will encourage its use and promote further research in this field.