Outlook

Re: CSC 537 Group Project Partners

From Ghosh, Mukulika <MGhosh@MissouriState.edu>
Date Mon 2/3/2025 11:38 AM
To Musick, Evan C <Musick1@live.missouristate.edu>
Cc Walker, Breyden C <bw537s@MissouriState.edu>

Hello Evan and Breydan,

Following is the class project topic I picked for your group. Please remember this is a class project, you are allowed to change the approach/dataset but keep the topic as close as possible.

Regards
Mukulika

Topic: CNN-Based Defect Detection in Manufacturing Images

Introduction:
Automated defect detection in manufacturing is essential for quality control. Traditional methods require extensive human intervention, but deep learning, especially Convolutional Neural Networks (CNNs), can efficiently classify and detect defects in images. This project will implement a CNN-based model for classifying and detecting manufacturing defects using a publicly available dataset.

Objectives:
Develop a CNN model to classify defective vs. non-defective products.
• Use image processing techniques to enhance defect visibility.
• Train and evaluate the model on a real-world dataset (Severstal Steel Defect Dataset, KolektorSDD, MTD Dataset).
• Compare CNN performance with traditional machine learning techniques.

From: Musick, Evan C <Musick1@live.missouristate.edu>
Sent: Tuesday, January 21, 2025 1:35 PM
To: Ghosh, Mukulika <MGhosh@MissouriState.edu>
Cc: Walker, Breyden C <bw537s@MissouriState.edu>
Subject: CSC 537 Group Project Partners

Dear Professor Ghosh,

I hope this email finds you well. I'm writing to confirm our group for the Deep Learning (CSC 537) project during the Spring 2025 semester. Our group members include:

- Evan Musick (em6023@live.missouristate.edu)
- Breyden Walker (bw537s@login.missouristate.edu)