Ideation Phase
Define the Problem Statements

Date	19 May 2023
Team ID	NM2023TMID22485
Project Name	Automated Weather Classification using Transfer Learning
Maximum Marks	2 Marks

Customer Problem Statement:

Our organization faces challenges in accurately classifying weather conditions from a large volume of images in a timely and efficient manner. Manual analysis and categorization of weather images are time-consuming and prone to human error. We require an automated weather classification system that leverages transfer learning techniques to solve these challenges and provide reliable and fast weather condition categorization

Key Customer Challenges

Time-consuming manual analysis: The manual analysis and categorization of weather images require significant human effort and time, leading to delays in obtaining weather condition insights. We need a solution that can automate this process and provide real-time results.

Limited expertise in weather analysis: Our organization may not have sufficient domain expertise in weather analysis to accurately label and classify weather images. We need a system that can overcome this limitation and provide reliable weather classification without relying solely on expert knowledge.

Handling large and diverse weather datasets: We have a vast collection of weather images, representing various weather conditions, captured from different sources and locations. Processing and analyzing such a large and diverse dataset manually is challenging. We need a solution that can handle the volume and diversity of our weather data effectively.

Adapting to changing weather patterns: Weather conditions can change rapidly, and new weather patterns may emerge. We need an automated weather classification system that can adapt to evolving weather patterns and provide accurate classification even for previously unseen conditions.

Optimizing resource utilization: Manual analysis of weather images consumes valuable human resources that could be allocated to other critical tasks. We require an automated system that optimizes resource utilization by minimizing the need for manual intervention and providing efficient weather classification results.

We are seeking an automated weather classification solution that utilizes transfer learning techniques to address these challenges. The system should be capable of accurately categorizing weather conditions from images, providing real-time results, ensuring consistency and reliability, handling large and diverse datasets, adapting to changing weather patterns, and optimizing resource utilization. By addressing these challenges, we

aim to improve our weather analysis capabilities and enhance decision-making processes in various domains, such as agriculture, transportation, and disaster management.

Example:

Problem Statement (PS)	I am	I'm trying to	But	Because	Which makes me feel
PS-1	a customer	classifying weather conditions from a large volume of images	its take a long time, Limited expertise in weather analysis, doesn't handle large amount of data.	Manual analysis and categorization of weather images are time-consuming and prone to human error	so disappointed