

IDEATION PHASE: DEFINE THE PROBLEM STATEMENTS

Team ID: LTVIP2026TMIDS91662

Project Name: AI-Powered Dog Breed Identification using Transfer Learning (MobileNetV2)

Team Leader: KARTHEEK MOYYI

Team Members: CHANDU TOGIRI, ARIKA SRIVALLI, BALAJI DESILLA

CUSTOMER PROBLEM STATEMENT TEMPLATE

A well-defined problem statement clarifies the real challenge faced by users and ensures that the solution directly addresses meaningful needs rather than assumptions.

Problem Statement 1 (PS-1): The User Perspective

- **I am a:** Pet owner or animal shelter volunteer.
- **I am trying to:** Accurately identify the specific breed of a dog from a single photograph.
- **But:** Manual identification is time-consuming, error-prone, and requires specialized knowledge of 120 different breeds.
- **Because:** Identifying subtle visual differences between similar breeds (fine-grained classification) requires high expertise.
- **Which makes me feel:** Uncertain and frustrated by the lack of immediate, reliable information.

SUMMARY OF PROBLEM STATEMENTS

| PS No. | User/Role | Goal/Trying to Do | Problem/But... | Reason/Because... | Feeling/Which makes me feel... |
|--------|-----------------------|-------------------------|--------------------------|---|--------------------------------|
| PS-1 | Pet Owner / Volunteer | Accurately identify dog | Manual identification is | Fine-grained visual differences are hard to distinguish | Uncertain and frustrated |

| | | | | | |
|-------------|-------------------|---|---|--|---------------------------------|
| | | breeds from images | slow and often inaccurate | | |
| PS-2 | Veterinary Clinic | Provide quick breed-specific health insights | Traditional expert review is time-intensive | High volume of cases limits manual throughput | Operationally constrained |
| PS-3 | App Developer | Integrate breed recognition into social media filters | Existing manual workflows cannot scale | Real-time classification requires automated AI | Concerned about user engagement |

WHY THESE PROBLEM STATEMENTS MATTER

- **Identification Accuracy:** Ensures users receive the correct breed classification with confidence scores.
- **Automation of Tasks:** Replaces manual visual checks with a 2-second automated prediction.
- **Reduction of Error:** Minimizes fatigue-related human errors in multi-class classification.
- **Scalability:** Allows for instant deployment across GitHub and web platforms for global use.