

# Requirement Analysis Phase

## Data Flow Diagram and User Stories

Date	15 February 2025
Team ID	LTVIP2025TMID42449
Project Name	Butterfly Species Classification System
Maximum Marks	4 Marks

## 1 Data Flow Diagram

### 1.1 DFD Level 0

The system accepts butterfly images from users, preprocesses them (resize, normalize, augment), processes through a MobileNetV2 model for species classification, retrieves educational facts from SQLite, and displays results via a Streamlit interface.

[Placeholder for DFD: User → Image Upload → Preprocessing → MobileNetV2 Inference → SQLite Query → Output Display]

## 2 User Stories

User Type	Epic	Story Number	Task	Acceptance Criteria	Priority	Release
Researcher	Classification	US-01	Upload image to identify species	Image is classified with confidence score	High	Spring 1
Ecologist	Classification	US-02	View prediction confidence	Confidence score displayed clearly	Medium	Spring 1
Student	Education	US-03	Access species facts	Facts (e.g., habitat) shown post-prediction	High	Spring 2
Citizen Scientist	Interface	US-04	Use intuitive UI for uploads	Streamlit UI is easy to navigate	High	Spring 3