

A close-up photograph of lavender plants in the foreground, with a blurred background of rolling hills or mountains under a soft, hazy sky. The text is overlaid on the image.

# SAGE

Sustainable Advisory & Guidance Expert

Helping people live more sustainably

# Introduction

- User-friendly AI Chatbot
- Quick and accurate responses
- Tailored advice on sustainable living

# Problem Statement

- Distinguish fad from fact
- Address environmental sustainability issues
- Offer credible, personalized solutions

# Problem Analysis

- Hybrid AI chatbot (machine learning and rule-based)
- Utilize NLP via large language models (LLMs)
- Train on large datasets and user feedback

# Evaluation

- Accuracy of information
- Relevance and completeness of responses
- Metrics: precision, recall, F1 score

# Model and Dataset

- DistilBertForSequenceClassification (Hugging Face Transformers)
- Custom ChatDataset class for data preprocessing
- DataLoader for efficient training
- Training hyperparameters: 3 epochs, batch size 16, learning rate  $5e-5$
- Model trained using CrossEntropyLoss and AdamW optimizer

# Implementation Details

- Import required packages and pre-trained models
- Load intents data from JSON file
- Tokenize and preprocess data using DistilBertTokenizer
- Create and train custom ChatDataset
- Train model using DataLoader, device-aware training, and optimizer
- Save trained model state and tags

# Demo & Code

<https://github.com/MeghanaChillara0203/SAGE>