

# Plant Species Recognition

# Objectives

- Automate the recognition of different plant species from images and provide detailed information to users

# Technologies

- YOLOv8 Object Detection
- EmbedChain & OpenAI's GPT models
- ReactJS for frontend development



# Workflow

- Train YOLOv8 classification model on a Plant Species [dataset](#)
- Pass the uploaded image to the trained model to extract the plant species
- Fetch the Wikipedia page for this plant and pass it as source document for LLM via EmbedChain

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# Workflow Continued ...

- **Develop frontend using ReactJS**
- **Create Flask APIs to bridge frontend and backend functionalities**
- **[Optional] Deploy the chatbot on a hosting service.**

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# Final Look



AUGMENTED STARTUPS

Pushing AI Innovation & Next-Gen Education

## Plant Recognition

Leaf It to Us! 🌿 Upload Your Plant Pic Now! 📷 We'll identify and tell you all there is to know about it.

### Preview



Choose file 1.jpg

Process

Detected Plant: Cirsium vulgare (Savi) Ten.

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- Brief Introduction to the plant: Cirsium vulgare, commonly known as the spear thistle or bull thistle, is a species of thistle native to Europe and Asia. It is a biennial plant that grows up to 1.5 meters tall and produces purple or pink flowers in the summer. - Scientific name: Cirsium vulgare (Savi) Ten. - Native habitat: Cirsium vulgare is native to Europe and Asia. - Ideal growing conditions: This plant prefers full sun and well-drained soil. It can tolerate a wide range of soil types, including sandy, loamy, and clay soils. It is adaptable to different moisture levels but prefers moderate watering. - Interesting facts: Cirsium vulgare has historically been used for various medicinal purposes, including treating liver and gallbladder disorders. It is also known for its spiny leaves and stems, which provide protection against herbivores. Additionally, the plant is a valuable source of nectar for pollinators, such as bees and butterflies. - Any other useful information: Cirsium vulgare is considered an invasive species in some regions, including North America, where it can outcompete native plants. It is important to manage its spread to protect native ecosystems.

How is this plant used as a medicine?

Cirsium vulgare has historically been used for various medicinal purposes, including treating liver and gallbladder disorders.

Is this considered an endangered species?

No, Cirsium vulgare is not considered an endangered species.

Type a message...

Send

# Benefits & Applications

- Quick identification of a wide variety of plant species
- Aids students, researchers, and enthusiasts in learning about plants
- Useful for biodiversity studies and plant conservation efforts

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# Future Steps

- Expand training data to cover rare species
- Update LLM's data for accurate and update plant information
- Deploy in plot regions for real-world validation

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**Thank you  
& Welcome**