



NASA Space Apps Challenge 2025

"Embiggen Your Eyes" Solution

Interactive Space Exploration Through Satellite Perspectives

Team: [Your Team Name]

Challenge: Help people see beyond human vision using satellite data

🚫 The Human Vision Problem

Human eyes see only **0.0035%** of the electromagnetic spectrum

- ❌ No infrared vision (heat signatures)
- ❌ No microwave detection (cosmic background)
- ❌ No access to space telescope perspectives
- ❌ Can't experience how satellites actually observe space

Challenge: Give people satellite eyes



StellarEye Solution

Interactive satellite vision for everyone

- ✓ Multi-wavelength space map - Switch between optical, infrared, microwave
- ✓ Real NASA survey data - ESO, WISE, 2MASS backgrounds
- ✓ Mission image gallery - Voyager, Hubble, JWST archives
- ✓ Google Maps for space - Intuitive exploration interface

Experience how satellites see the universe



Real NASA Data Integration

Authentic satellite perspectives

Background Surveys:

- ESO All-Sky Survey (optical wavelengths)
- NASA WISE Survey (infrared heat signatures)
- NASA 2MASS Survey (near-infrared penetrating dust)

Mission Images:

- NASA Images API (Voyager, New Horizons, Hubble)
- Real astronomical coordinates (Gaia star catalog)
- Progressive image loading with CORS proxy

Live Demo Features

Interactive space exploration

Map Interface:

- Click celestial objects (stars, planets, galaxies)
- Switch survey backgrounds (optical ↔ infrared)
- Real astronomical coordinates (RA/Dec)

Image Gallery:

- Multiple telescope perspectives of same object
- Advanced zoom/pan viewer
- Mission metadata and descriptions

Objects (1/30)

jupiter

Real Coordinates

Objects pinpointed to actual positions in astronomical survey images. Stars & galaxies are precise; planets show recent positions.

Debug Objects

Total: 30 | Filtered: 1

Background: survey

Search: "jupiter"

- All (30)
- star (10)
- planet (8)
- exoplanet (6)
- galaxy (2)
- nebula (4)

DSS Optical Survey

Digital Sky Survey - Optical wavelengths

Coordinate System: equatorial

Jupiter

Planet

RA: 67.80° Dec: 23.10°



Jupiter

Planet

BASIC PROPERTIES

PHYSICAL PROPERTIES

ABOUT

Coordinates:	RA 67.800°, Dec 23.100°	Temperature:	-108°C	Jupiter is the largest planet in our solar system and has a Great Red Spot storm.
Magnitude:	-2.7	Mass:	317.8 × Earth	
Type/Class:	Gas Giant	Radius:	11.21 × Earth	
Distance:	778.5 million km from Sun	Luminosity:	Reflects sunlight	
Survey:	equatorial	Age:	4.503 billion years	

Key Facts:

- Largest planet in solar system
- Has over 80 moons
- Great Red Spot storm
- Acts as "cosmic vacuum cleaner"

✓ "Embiggen Your Eyes" Achieved

Giving humanity satellite vision

Challenge Requirements Met:

- ✓ Help people see beyond natural perception
- ✓ Use real satellite data (NASA/ESA missions)
- ✓ Create interactive experience
- ✓ Educational and accessible