

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation

Analysis of Autonomous Vehicle Testing Video

The Capstone Experience

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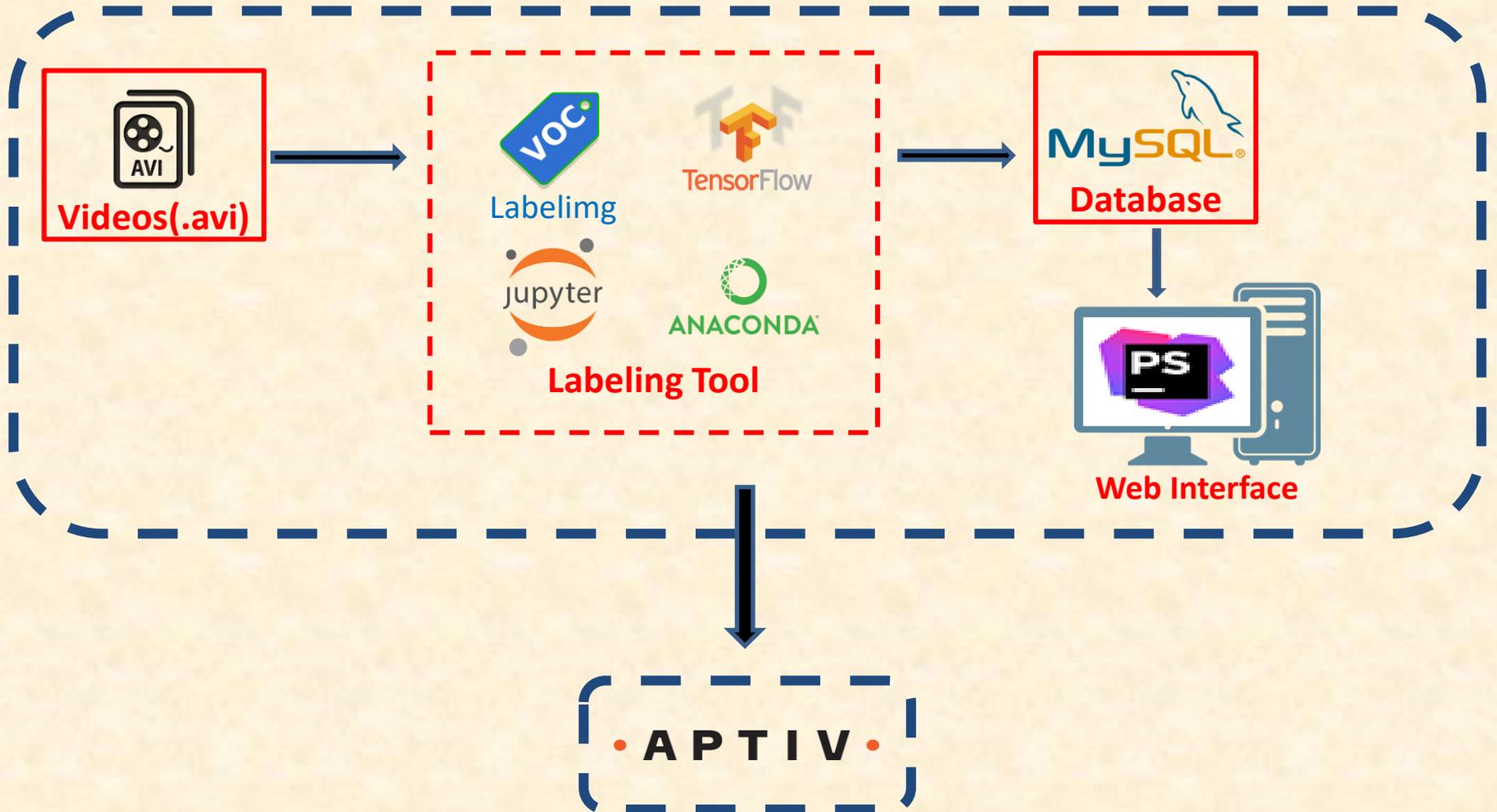
*From Students...
...to Professionals*

Project Overview

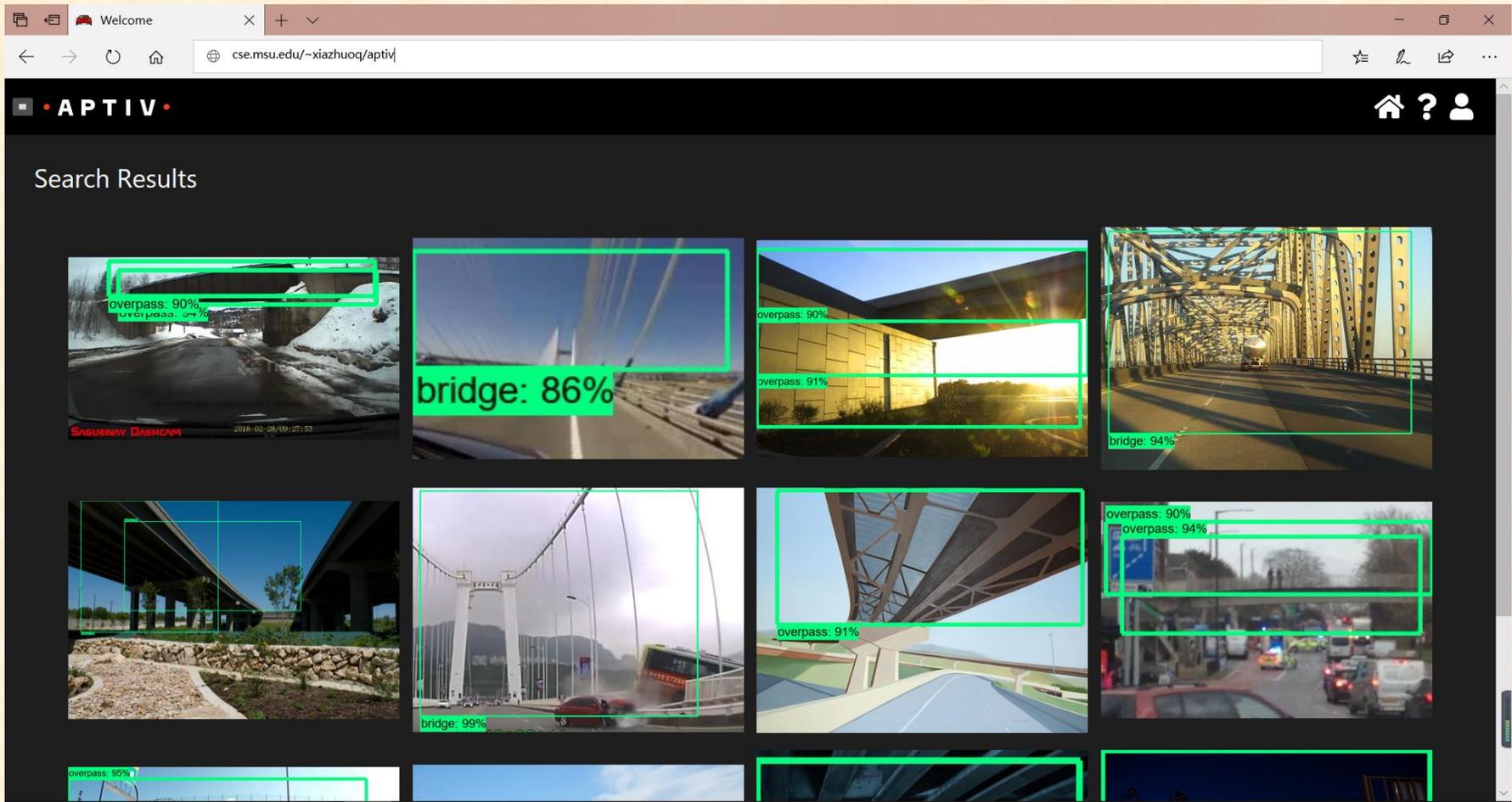
- Model
 - Identify and annotate driving scenarios
 - Examples: overpass, bridge
- Database (DB)
 - Created schema for storing labelled images
 - Stream annotated images into DB for querying
- Web App
 - Created and connected to DB
 - Filter results by different features



System Architecture



Home Page



Filter Result - Overpass

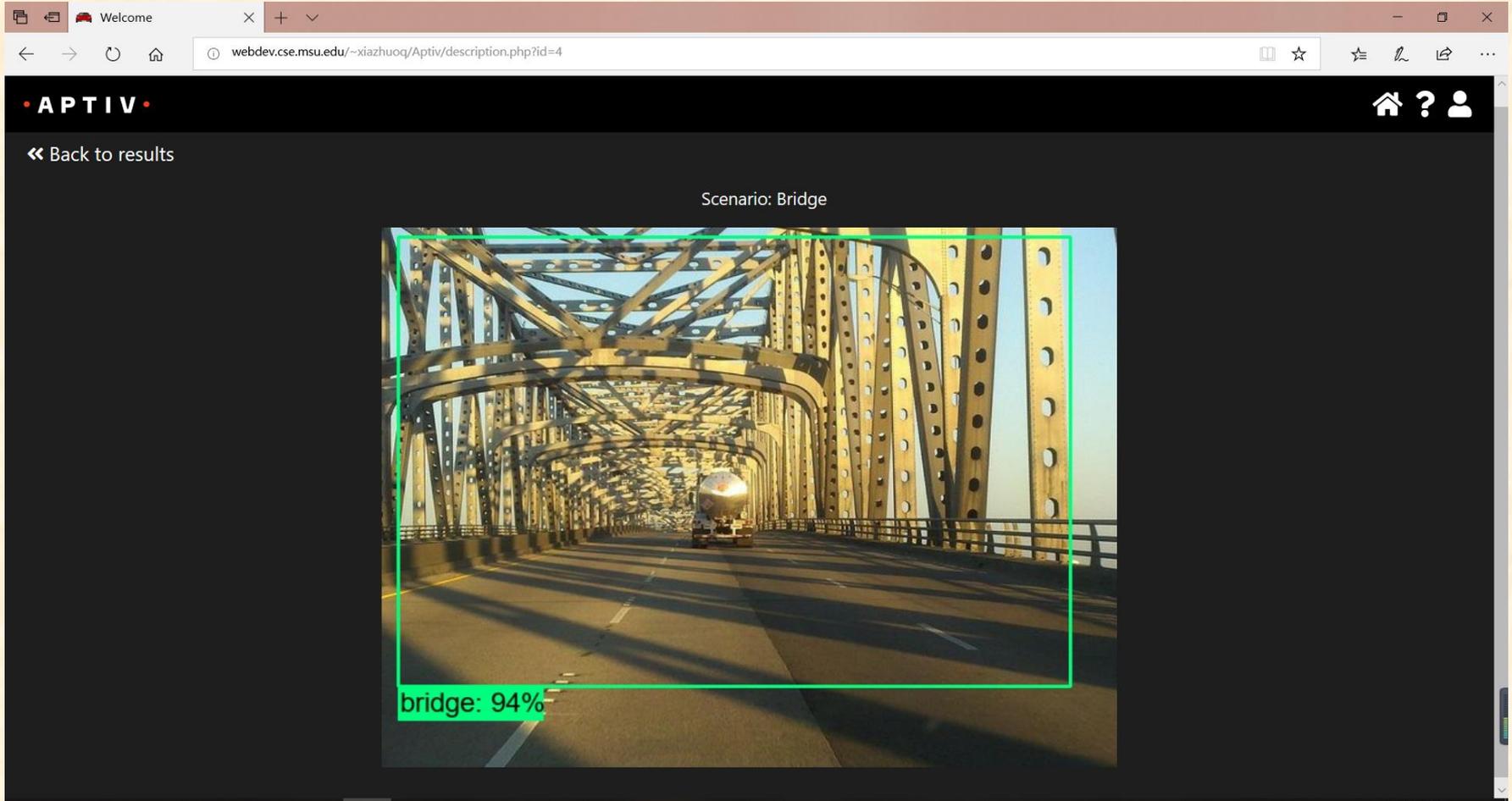
The screenshot displays the APTIV web application interface. At the top, the browser address bar shows the URL `cse.msu.edu/~xiazhuo/aptiv`. The application header includes the APTIV logo and navigation icons. A sidebar on the left identifies the user as 'diana' and provides a 'FILTER BY' section with a 'Scenario' dropdown menu. Under 'Scenario', the 'Overpass' checkbox is checked, and the 'Bridge' checkbox is unchecked. A 'Submit' button is located below the filter options. The main content area is a grid of image thumbnails. Each thumbnail is overlaid with a green bounding box and a text label indicating the 'overpass' percentage. The visible percentages are: 90%, 91%, 91%, 91%, 94%, 90%, 92%, 96%, and 96%. The images show various views of overpasses, including close-ups of structural elements, wide shots of roadways, and views from underneath the structures.

Filter Result - Bridge

The screenshot displays the APTIV web application interface. At the top, the browser address bar shows the URL `cse.msu.edu/~xiazhuoq/aptiv`. The application header includes the APTIV logo and navigation icons. On the left, a user profile for 'diana' is shown, along with a 'FILTER BY' section. Under 'Scenario', the 'Bridge' filter is selected, and a 'Submit' button is visible. The main content area features a grid of image thumbnails, each with a green bounding box and a classification percentage:

- Top-left: 6%
- Top-middle-left: bridge: 94%
- Top-middle-right: bridge: 99%
- Top-right: 99%
- Bottom-left: 99%
- Bottom-middle-left: bridge: 53% 93%
- Bottom-middle-right: bridge: 96%
- Bottom-right: 99%

Annotated Image Description



What's left to do?

- Identify more scenarios and features
 - Scenario examples: toll booth, tunnel
 - Feature examples: time of day, weather
- Increase accuracy of annotation results
- Annotate streaming results from model to DB
- Reconcile web app design with Aptiv standards
- Update model components
 - Storing image results
 - Compatibility across different file types



Questions?

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