

# Current Research



- **Advanced Driving Assistance Systems:**
  - Can Driver Maneuvers be Predicted?
  - Ocular Behavior and Current Maneuvers
  - Driver Intent (Most Probable Next Maneuver)
  - V2I and V2V Communications

# Research Vehicle



# On-Board Systems



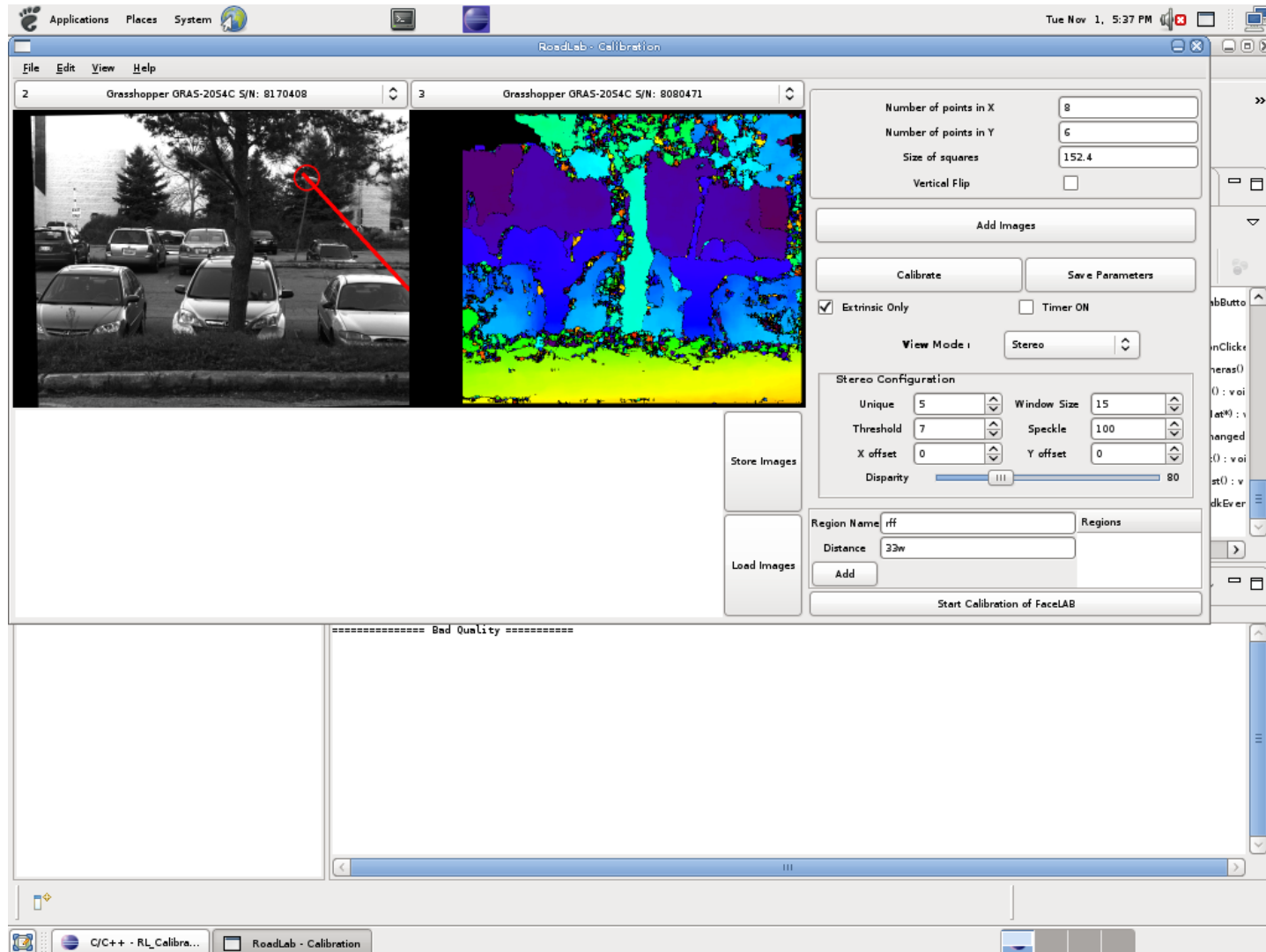
The interface is divided into several sections:

- Stereo 1:** Shows two camera feeds (Camera 0 and Camera 1) with a 'Raw' dropdown menu. Each camera has 'Mirror' and 'RAW' checkboxes and a '0.0' slider. The camera IDs are 'Camera 0 - S/N: 8170408' and 'Camera 1 - S/N: 8080471'. Below each camera are vertical sliders for '115.0' and '45.0'.
- Stereo 2:** Shows the same two camera feeds with a 'Stereo Depth Map' dropdown menu. It includes similar 'Mirror', 'RAW', and '0.0' sliders, and camera IDs. A red circle highlights a car in the left camera feed. The right camera feed shows a depth map with a color scale from blue (near) to red (far).
- Record / Stereo Configuration / Camera Configuration:** A tabbed menu at the bottom left.
- Stereo1 Configuration:**
  - Unique: 12
  - Threshold: 12
  - X offset: 0
  - Disparity: 128
  - Window Size: 7
  - Speckle: 100
  - Y offset: 0
- Stereo2 Configuration:**
  - Unique: 7
  - Threshold: 3
  - X offset: 0
  - Disparity: 32
  - Window Size: 17
  - Speckle: 100
  - Y offset: 0
- Vehicle Metrics (Right Panel):**
  - FaceLAB and Can Active status indicators.
  - Head Quality: 0.59
  - Gaze Quality: 3.00
  - Saccade: 1.2
  - Pupil Diameter (mm): 10.0
  - Speed (Km/h): 3
  - Accelerator: 42.00
  - Brake: 1.00
  - Left Signal and Right Signal indicators.
  - Queue size: 0.00
  - Quit button.

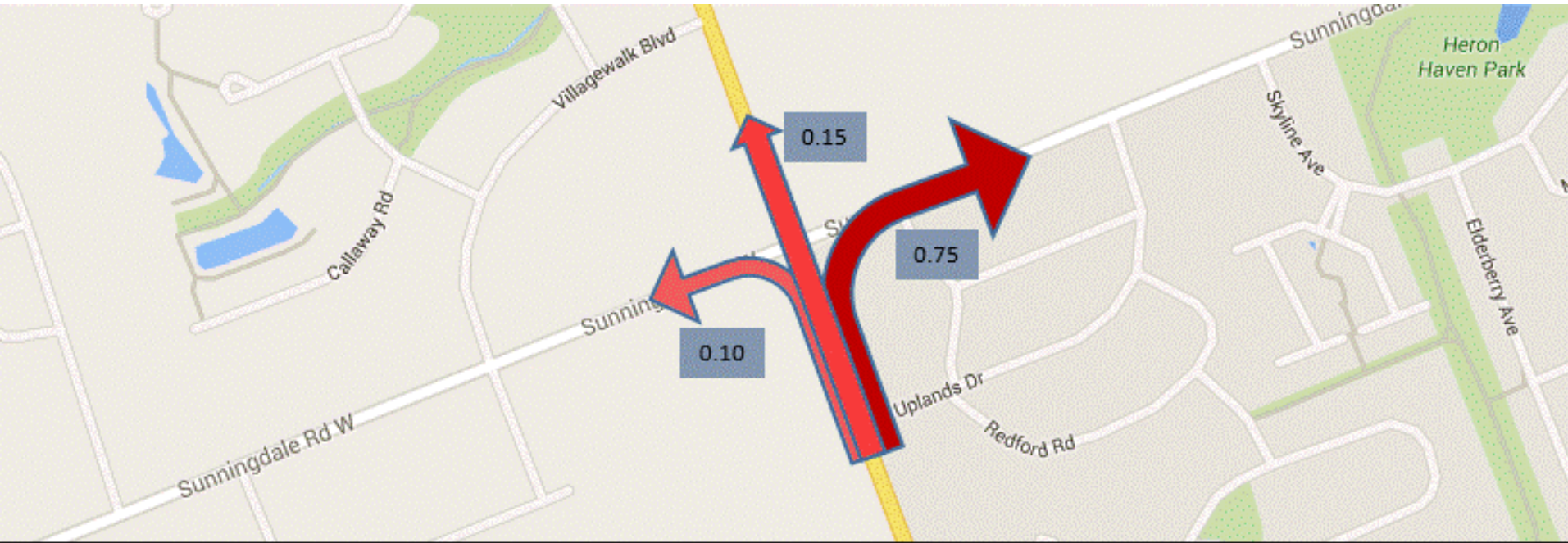
# On-Board Hardware



# 3D Point-of-Gaze



# Maneuver Prediction





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