From Students…
…to Professionals

Alpha Presentation
Automotive Software Integration In Virtual 3D
The Capstone Experience

Team Elektrobit
Fierro, Alan
Austin, Joshua
Kania, Logan
Dutton, Brandon
Wojan, Tommy
Le, Duy

Department of Computer Science and Engineering
Michigan State University
Spring 2024
Project Overview

• Proof of concept for HPC Dev-kit
  ▪ Simple, secure, low-latency communication
• Pull data from CARLA sensors to the frontend
  ▪ Data passes through two HPC Dev-kit containers
• Target audience is other engineers
  ▪ Backend logic is far more important than the UI
System Architecture
Main Dashboard

- 72 MPH
- 0.5 Gs

[Diagram showing compass and distance measurements]
Speedometer/Accelerometer

72 MPH

0.5 Gs
GPS Sensor
Obstacle Detection Sensor
What’s left to do?

- CARLA data needs to be cleaned and usable
- Lower response time for the UI to refresh properly
- * Average of 3 radar and 3 GPS sensor
  - If one is malfunctioning, stop using the data and report failure
- * Implement more sensors
  - Dropdown menu for each of the three components
Questions?