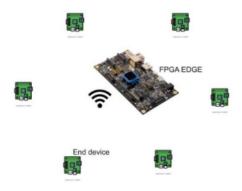## Project Use Case Scenarios #1 – <PROJECT TITLE HERE>

Names of Team Members, Team Member Role, UCI email addresses:

1. Vishwanath Singh (vishws1@uci.edu) Manish Sudhir Sudumbrekar (msudumbr@uci.edu)

Updated Visual Representation of Project

Include your updated visual from the initial project proposal here (should be your own interpretation of the prototype).

Used from the capstone project pitch provided by professor Eli. We mainly work with the FPGA board and might not require Rpi, since working on the technology is the goal now. The visual may vary when the application is determined

Use Case Scenarios

1. driver assistance system, lane detections
2. any kind of surveillance.
3. Medical Image classification.

Timeline of Tasks and Planned WorkLoad Split for use case scenarios

- Week 1:

  Task 1: Set up wireless communication between Raspberry Pis and FPGA edge node. (1 day)

  Task 2: Study FPGA design tools and ML engine. (2 days)

- Week 2:

  Task 3: Develop software for image transmission. (2 days)

  Task 4: Implement basic image processing algorithms on FPGA. (3 days)

- Week 3:

Task 5: Develop policies for accelerator allocation. (2 days)

Task 6: Implement scheduling algorithms. (3 days)

- Week 4:

    Task 7: Analyze performance metrics for ML application placement. (2 days)

    Task 8: Implement ML models on end-devices and FPGA edge node. (3 days)

- Week 5:

    Task 9: Evaluate performance and determine optimal placement strategy. (2 days)

    Task 10: Finalize documentation and prepare a presentation. (3 days)

ADDITIONAL COMMENTS / CONCERNS

If there are comments/concerns you'd like to discuss with your advisor or the instructional team, state them here for reference.