



University
of Regina

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Proof of Concept And Prototype

IFS DriverAlert

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Introduction

This document presents the Proof of Concept (PoC) and prototype for our IFS DriverAlert. The goal of this document is to demonstrate that the project idea is both feasible and implementable, and to provide a prototype of how the system is intended to function.

Objectives

The primary objective of this document is to:

- Show the model running on both laptop machine and Raspberry Pi (RPi5).
- Proof that the project idea can operate on a resource-limited device like the RPi5.
- Prove the feasibility of running a real-time eye state detection system on the RPi5 using TensorFlow Lite.
- Provide a working prototype that demonstrates how the final system will function.

Demonstration Videos

Below are links to the recorded videos showcasing the system in action:

- Model Running on Laptop:
 - <https://www.youtube.com/watch?v=BJoIHdS7o0M>
- Model Running on Raspberry Pi
 - <https://www.youtube.com/shorts/IY1LgW1nut4>