Pizzair : Autonomous Drone Pizza Delivery
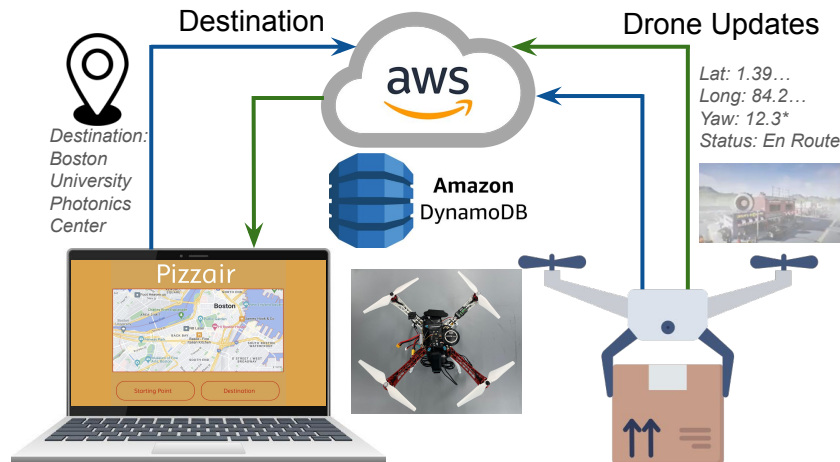
Compton Bowman [3] **Usman Jalil** [1,4] **Yafei Chen** [2,5] **Ahmet Caliskan** [1] **Quentin Clark** [1,6]

[1] Comp. E. [2] Electrical E. [3] Mech. E. [4] Mathematics [5] Systems E. [6] Philosophy

BOSTON UNIVERSITY

SPINNAKER ANALYTICS
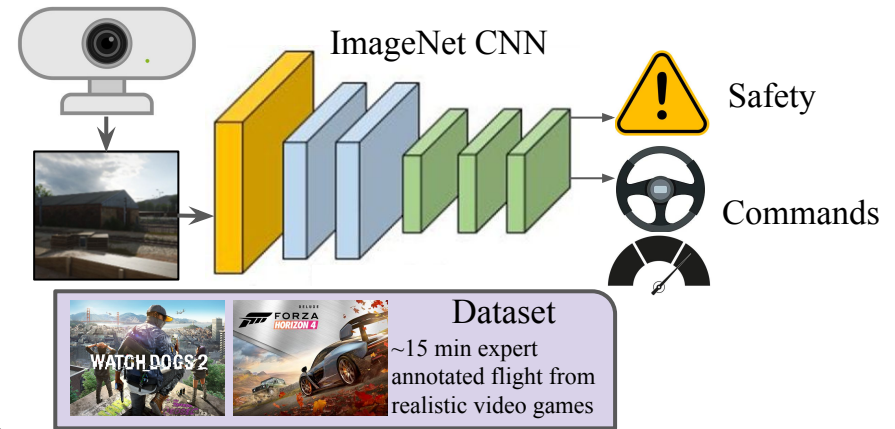*Analyze. Predict. Execute.*

Background

- Human Pizza delivery has <u>delays</u> and <u>extra costs</u>
- High fees (up to 30%) from third-party delivery services
- Restaurants struggle with <u>driver availability</u>, leading to <u>long waits</u> & <u>cold food</u>
- Our solution: <u>automated</u> drone delivery, powered by <u>machine learning</u>, straight to your door!
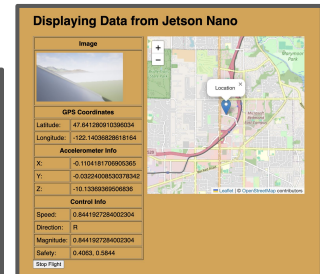
The Pizzair System

Destination — Drone Updates

aws

Lat: 1.39…
Long: 84.2…
Yaw: 12.3*
Status: En Route

Amazon DynamoDB

Destination: Boston University Photonics Center

Pizzair

Flask — web development, one drop at a time

OpenCV — PyTorch

PizzaNet - Machine Learned Flight

ImageNet CNN

Safety

Commands

Dataset
~15 min expert annotated flight from realistic video games

WATCH DOGS 2 — FORZA HORIZON 4

Results

Microsoft AirSim

Displaying Data from Jetson Nano

Web Application

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