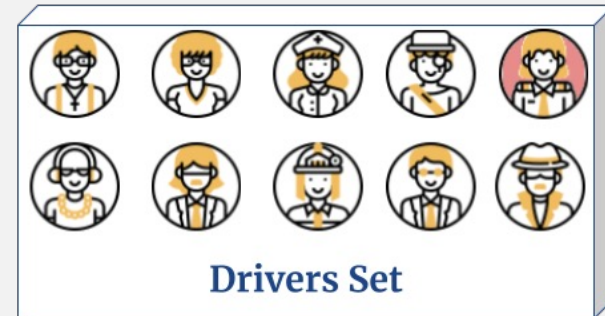


# DRIVER IDENTIFICATION BY AN ENSEMBLE OF CNNs OBTAINED FROM MAJORITY-VOTING MODEL SELECTION

Rouhollah Ahmadian, Mehdi Ghatee, and Johan Wahlström

# INTRODUCTION

**Definition:** The process of verifying the identity of the person who is operating a vehicle from among a group of drivers.



# LITERATURE

## **Methodologies:**

- Traditional: RFID technology
- Biometric: Facial Recognition, and Fingerprint Scanning
- In-vehicle Signals: GPS, ECU, and IMU

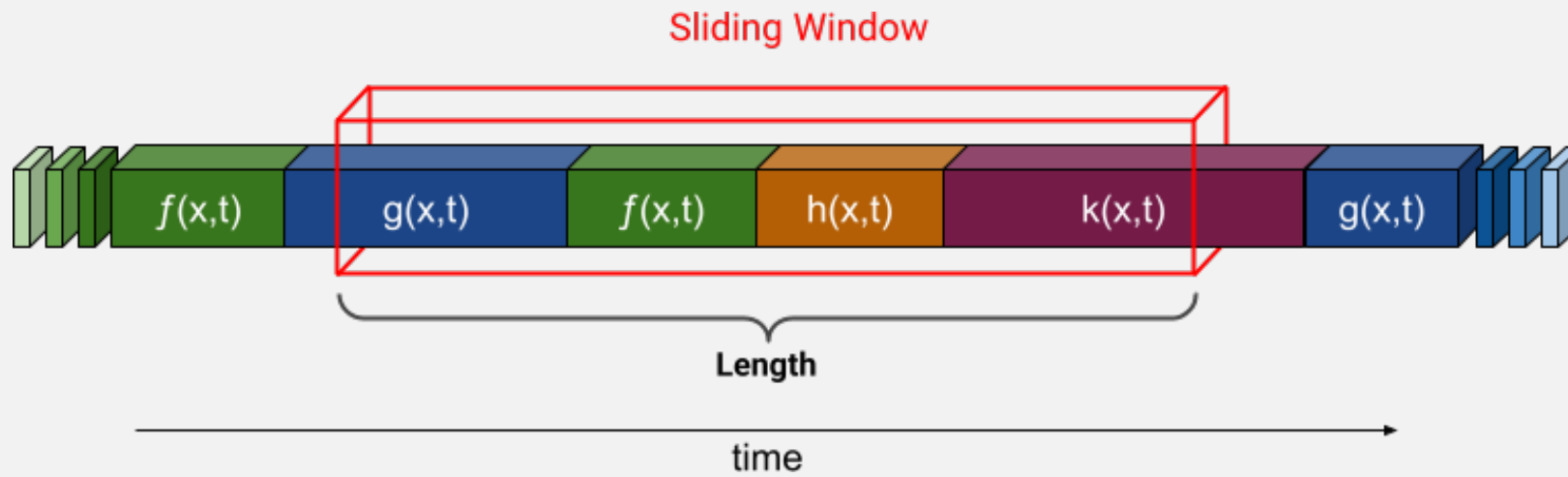
## **Cons:**

- Easy to Fool
- High Computational Cost
- Infrastructure: Camera, CAN-bus

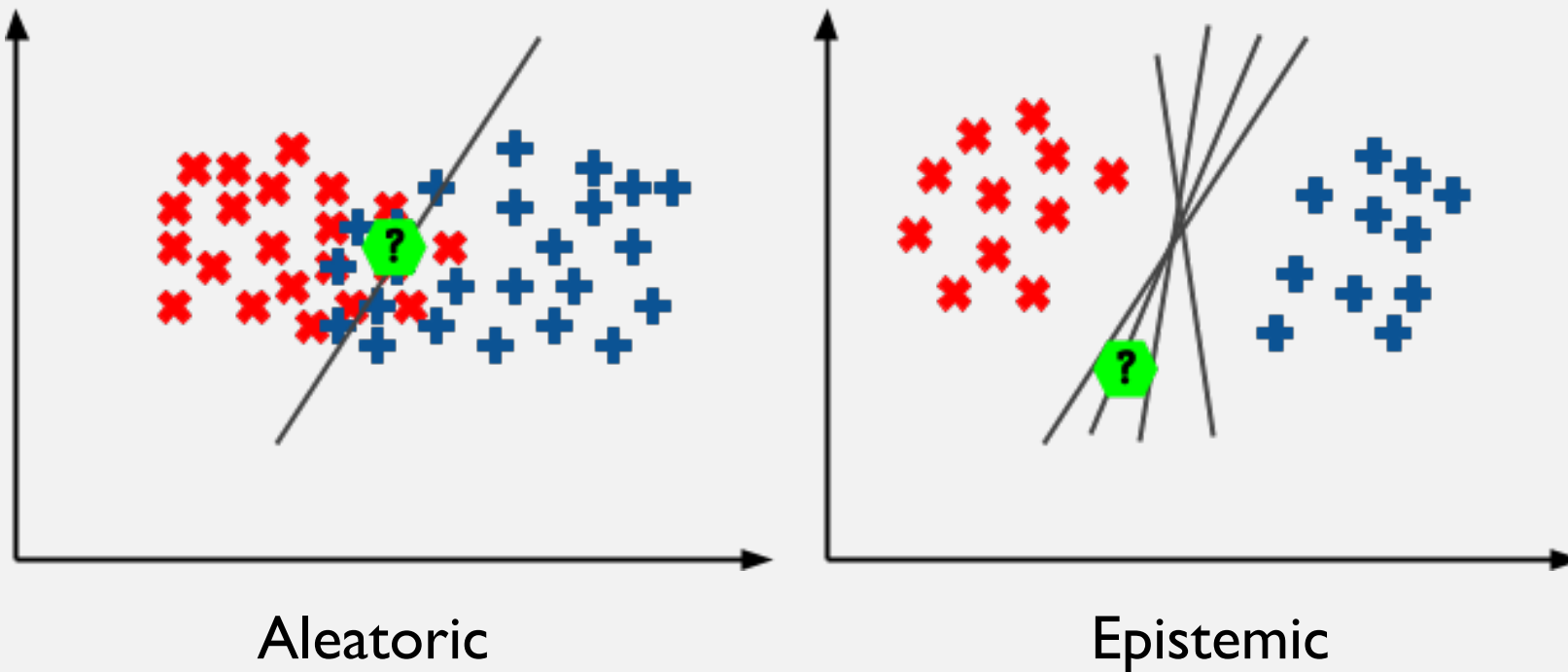
# APPLICATIONS

- Intelligent Insurance
- Rental Car Service
- Personal Vehicles
- Public Transportation

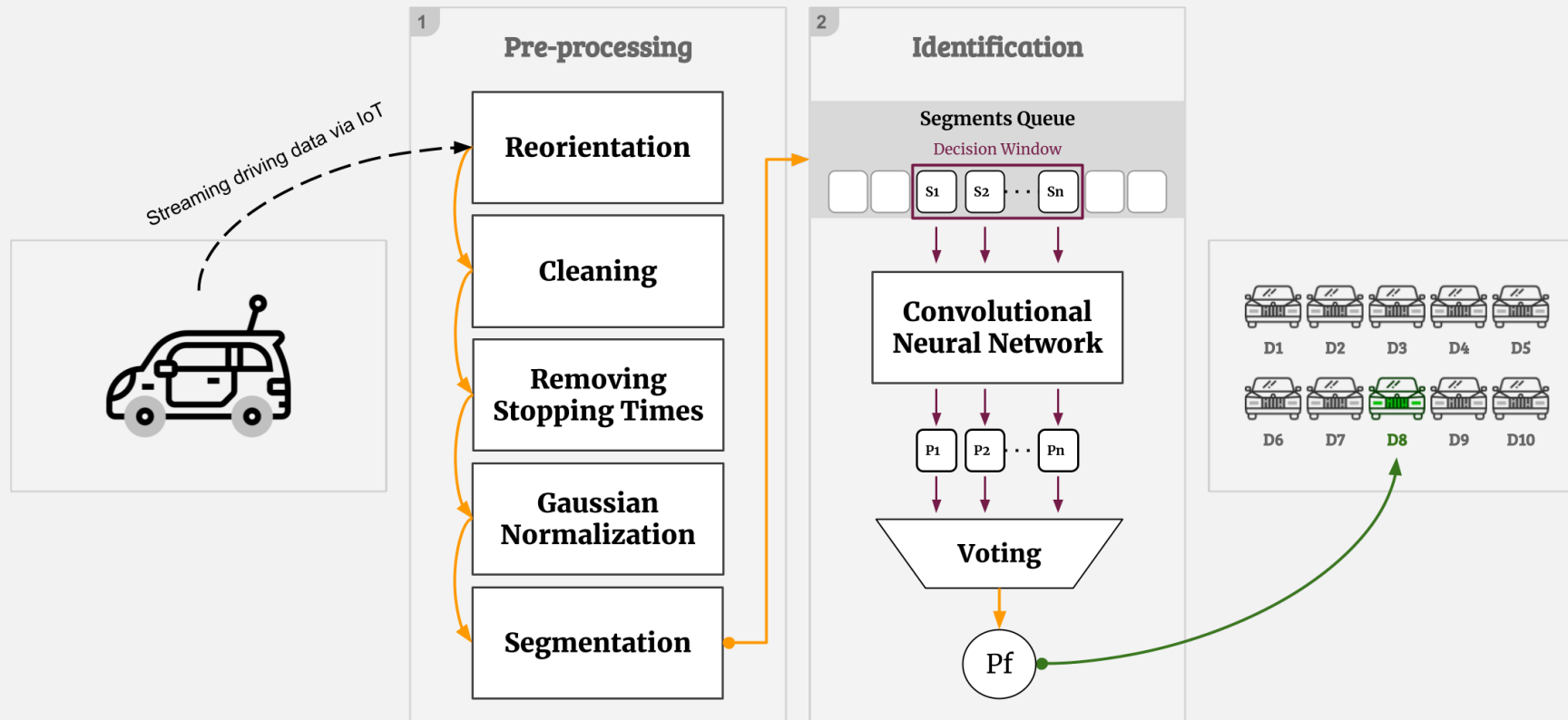
# SLIDING WINDOW



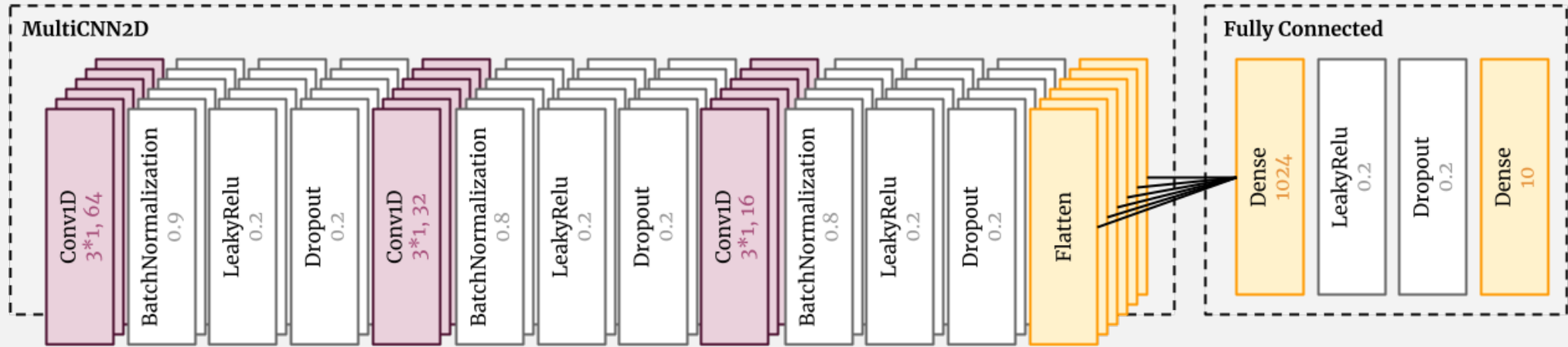
# UNCERTAINTY



# METHODOLOGY

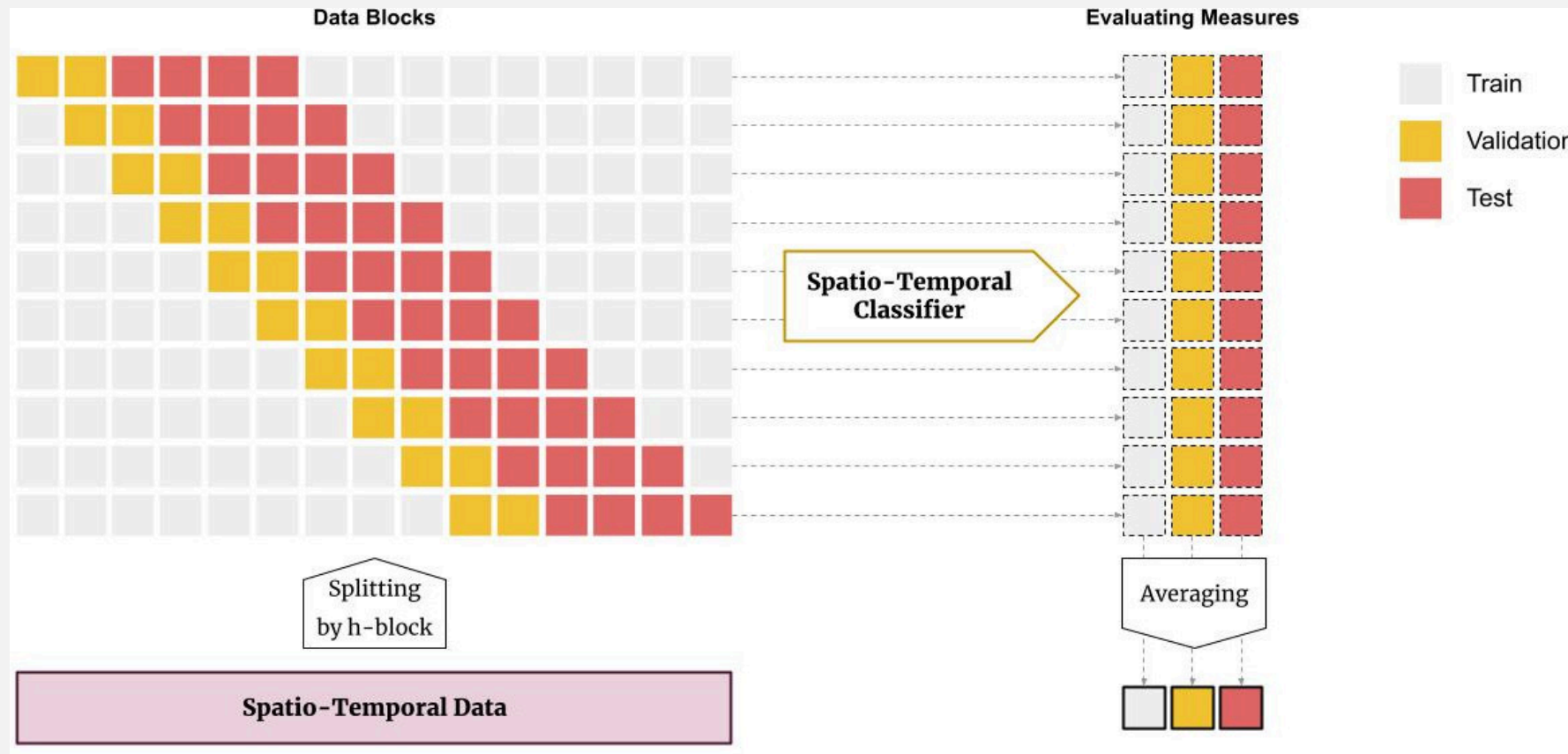


# ARCHITECTURE

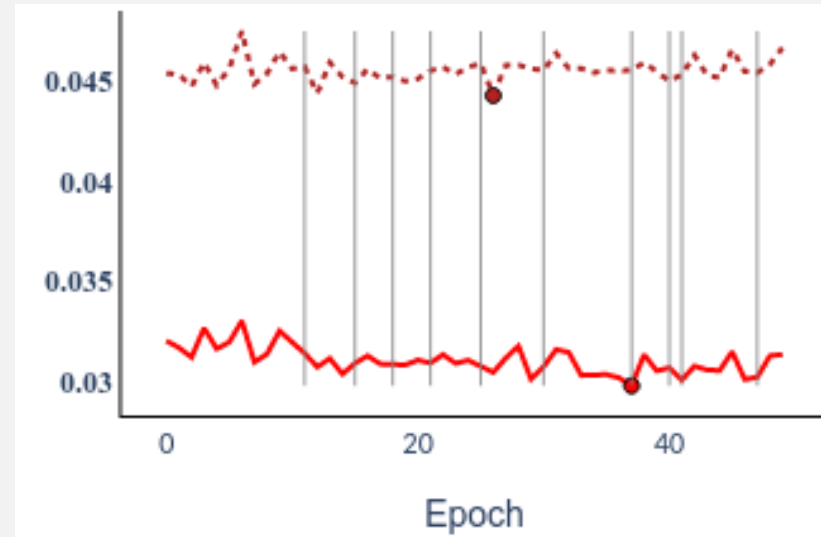
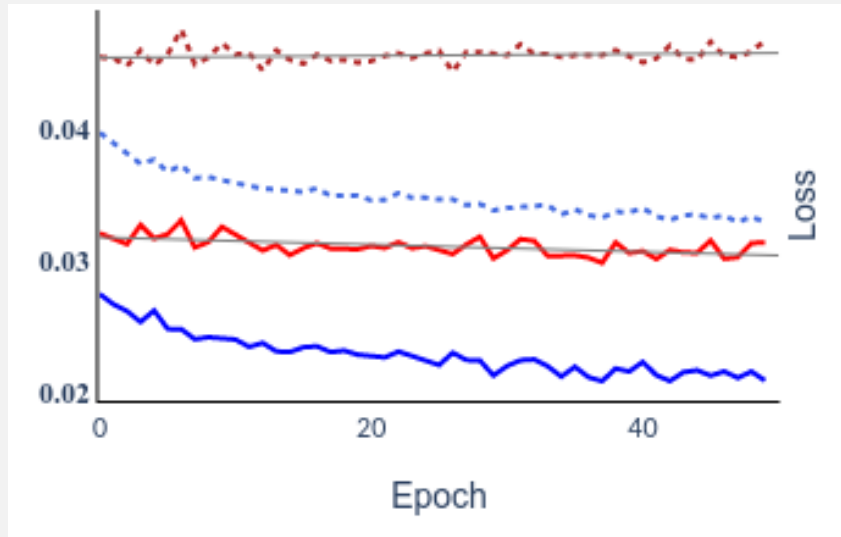




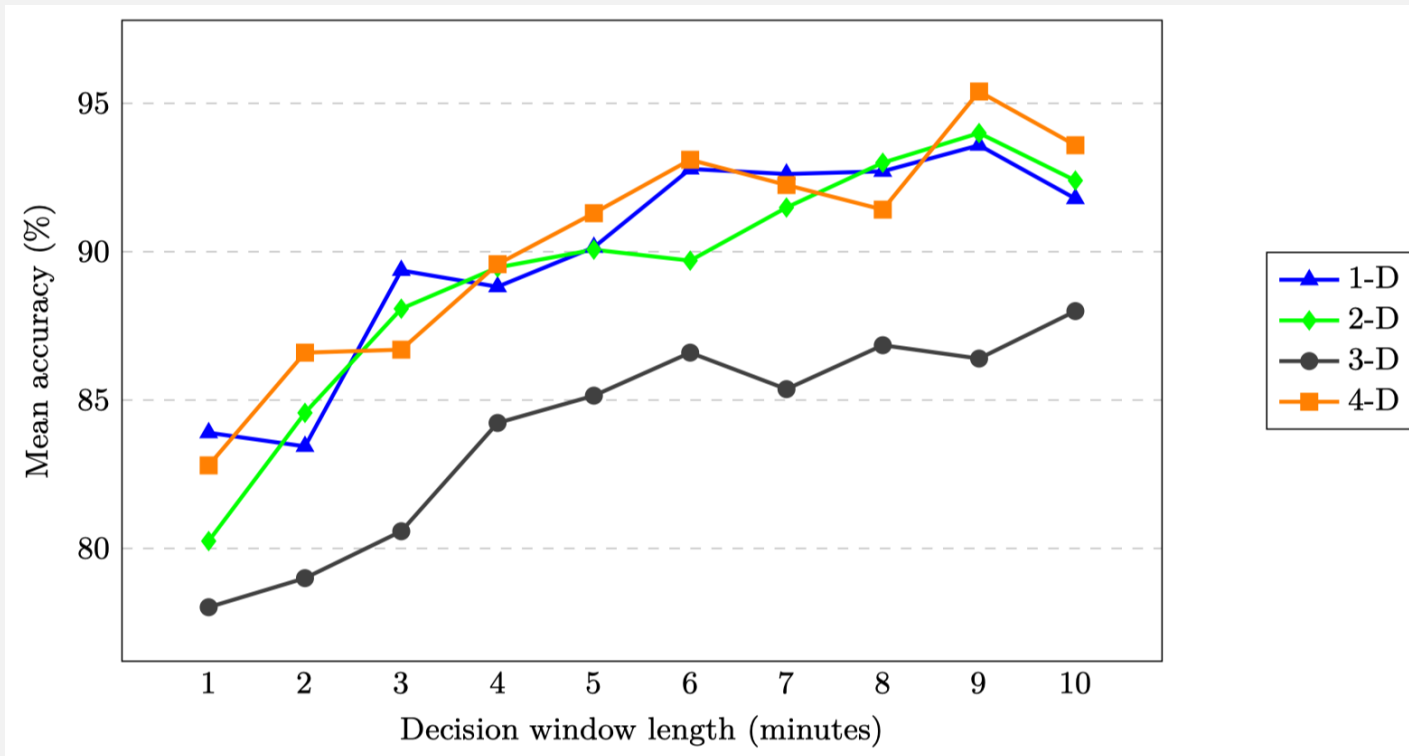
# EVALUATION METHODOLOGY



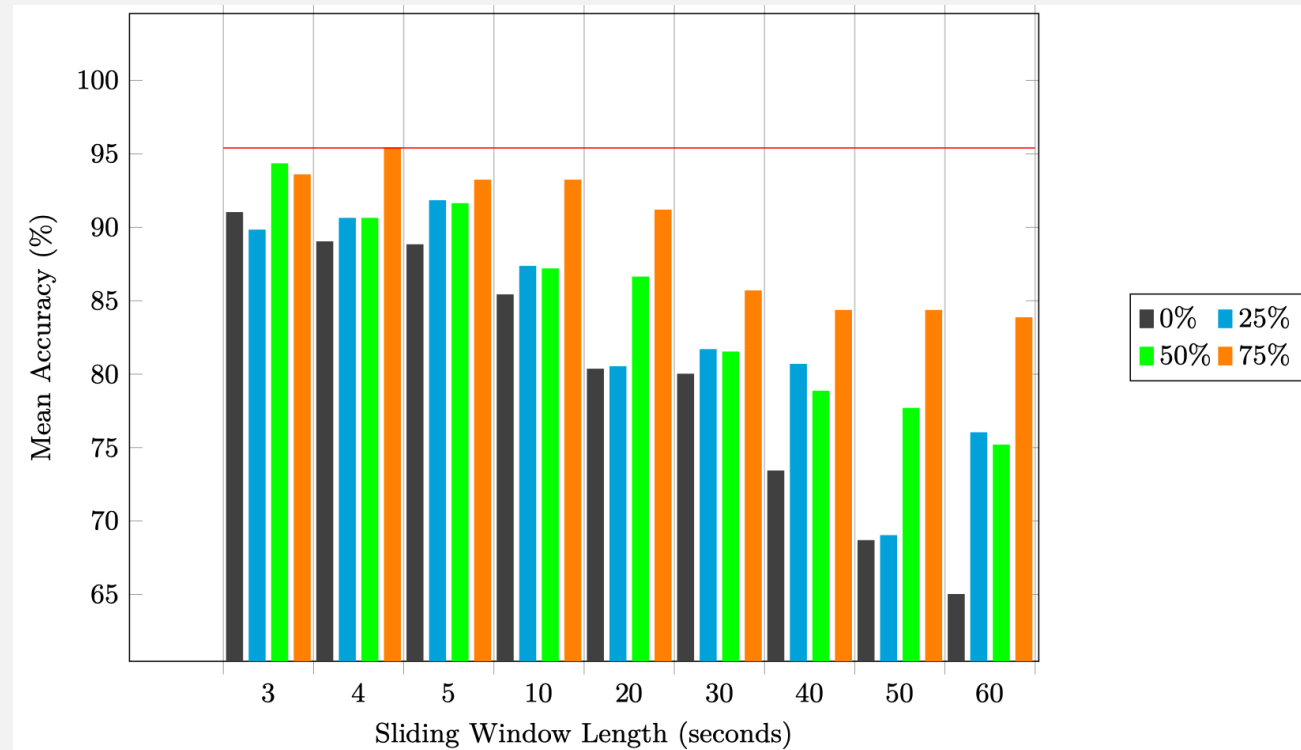
# EXPERIMENTS



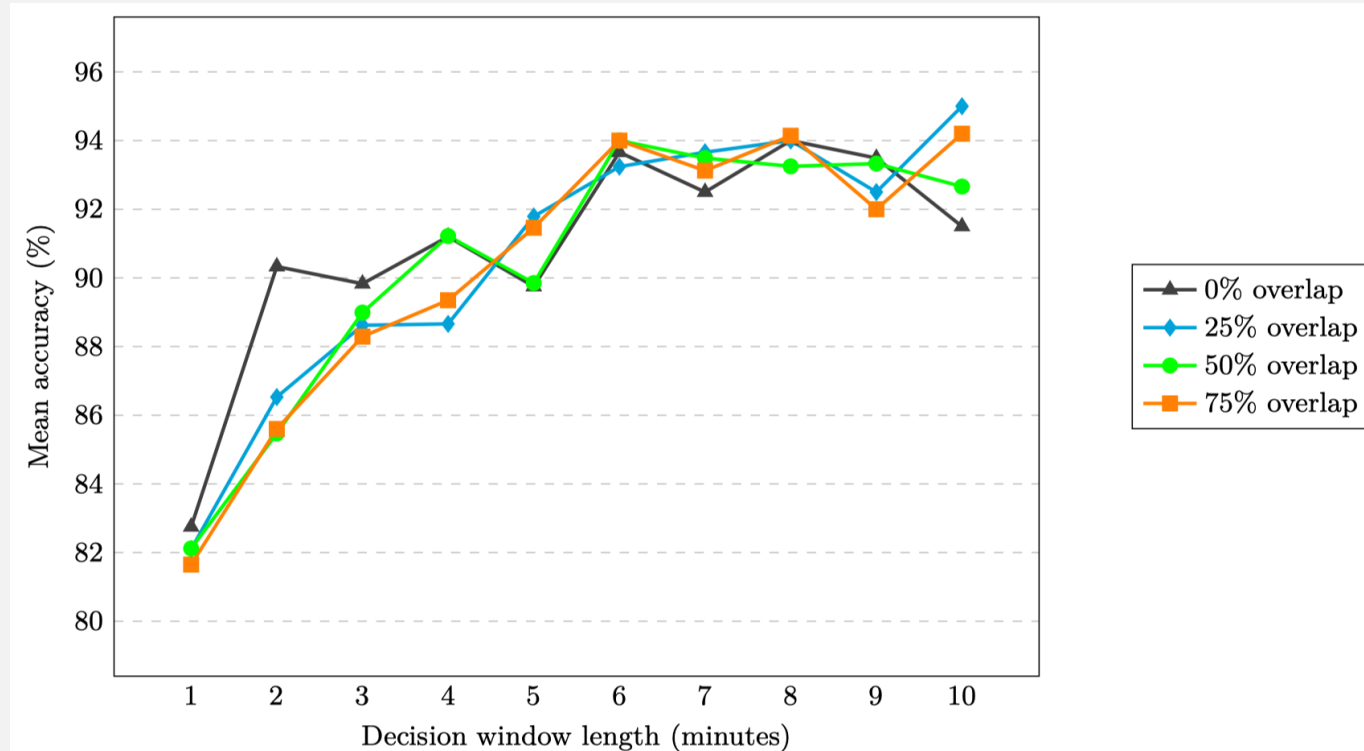
# EXPERIMENTS ARCHITECTURE



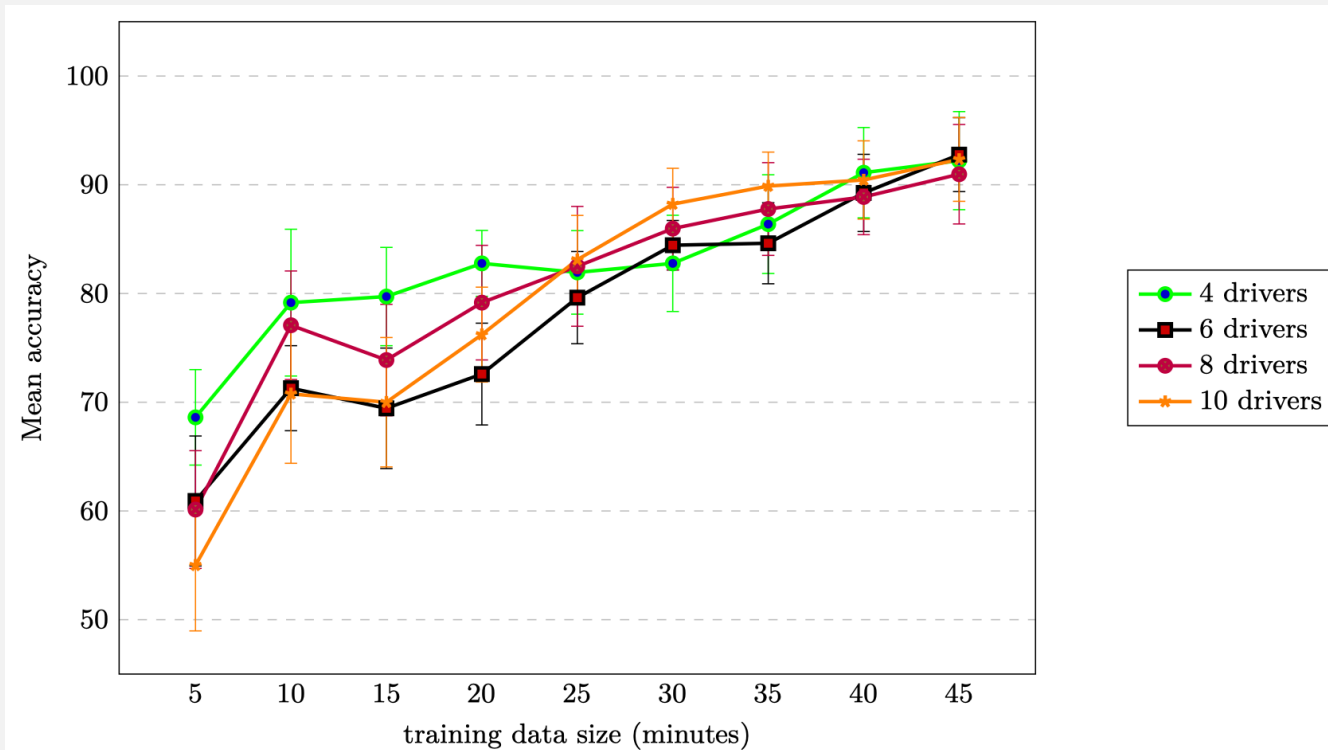
# EXPERIMENTS SLIDING WINDOW



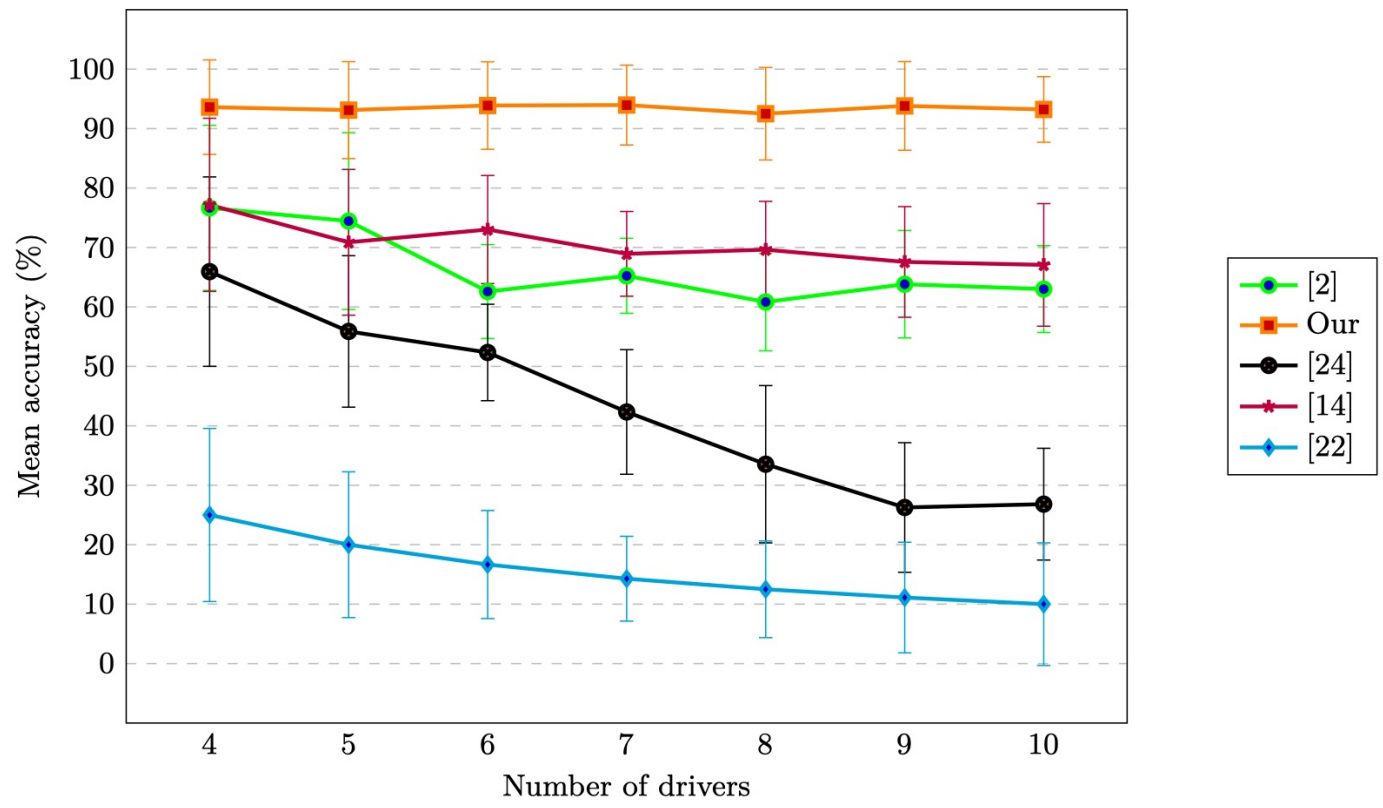
# EXPERIMENTS DECISION WINDOW



# EXPERIMENTS TRAINING SIZE



# BENCHMARK



## REFERENCES

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- [14] Li, Z., Zhang, K., Chen, B., Dong, Y., Zhang, L.: Driver identification in intelligent vehicle systems using machine learning algorithms. *IET Intelligent Transport Systems* 13(1), 40–47 (2018)
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THANK YOU FOR YOUR TIME AND  
ATTENTION