

I - Contextualization

Chapter 1
From Speed Recommendation to Adaptive Control

II - State of the Art

Chapter 2.1
How can a learning-based controller adapt continuously to non-stationary dynamics while maintaining reliability and safety ?

Chapter 2.2
How can a learning architecture model non-linear, non-stationary dynamics from an online stream of data while avoiding catastrophic forgetting ?

III - Contributions

Chapter 4
Solving Control Tasks with CELL (Model Predictive Control)

Chapter 3
Context Ensemble Local Learning (CELL formalism \rightarrow oCELL \rightarrow kCELL)

Chapter 5
Prospective works on scalability and use of CELL modularity (CELL formalism \rightarrow sgpCELL)

IV - Conclusions and Future Research Directions

Chapter 6
Industrial Use Cases

Chapter 7
Conclusion and Future Works

Control with
Learned Models

Online Learning