DEVELOPMENT OF OFFLINE METHODS FOR LOCALIZATION ON HD MAPS USING DEEP LEARNING BASED NEURAL NETWORKS FOR AUTOMATIC GROUND TRUTH GENERATION

ABSTRACT

INTRODUCTION

CHAPTER 1: AUTONOMOUS DRIVING AND HD MAPS

* Introduction to Autonomous Driving (AD)
* HD Maps: Definition and Importance
* Localization on HD Maps
* Challenges and Limitations of Current Localization Techniques
* State of the art

CHAPTER 2: MAP ALIGN: A DEEP LEARNING BASED APPROACH

* Introduction to Neural Networks
* Architecture Description
* Dataset Description and Sensors Suite
* Methodology

CHAPTER 3: MAP ALIGN: TRAINING AND MODELING APPROACHES

* Approaches and Their Pros and Cons
* First approach: data no images
* Results
* Second approach: data and images
* Results

CHAPTER 4: ANALYSIS OF RESULTS AND FUTURE IMPROVEMENTS

* Results comparison
* Future Developments and Real-World Applications
* Improvements

CONCLUSION

REFERENCES/BIBLIOGRAPHY