### University POLITEHNICA of Bucharest

Automatic Control and Computers Faculty, Computer Science and Engineering Department





### BACHELOR THESIS

# Unmanned Aerial Vehicles, Formation Flight

Scientific Adviser:

Prof. Adina Magda Florea Ing. Mihai Trăscău Ș.l. Cătălin Leordeanu **Author:** 

Alexandru George Burghelea

Va multumesc tuturor pentru ajutorul acordat in elaborare

TODO:
SCRIE UN TODO

## Abstract

Here goes the abstract about UAV Formation Flight.

### TODO:

Write abstract

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## Introduction

BOLD TO REMEMBER

TODO:

WRITE INTRODUCTION CHAPTER (1-2 pages)

### 1.1 Domain Description

TODO:

Describe the uav domain

#### 1.1.1 Motivation

This thesis presents the UAV Formation Flight.

TODO:

Write motivation

### 1.1.2 Objectives

TODO:

Write objectives

## Related Work

#### TODO:

Describe related work

We can also have citations like [1].

## UAV Management Platform

### 3.1 Architecture

TODO:

Describe architecture

### 3.2 Functionalities

TODO:

describe functionalities

TODO:

Describe management framework

## Formation Flight

- 4.1 Coordinates Systems
- 4.1.1 Latitude, Longitude, Altitude

## TODO: describe lla

4.1.2 Earth-Centered, Earth-Fixed

## TODO: describe Ecef

4.1.3 Conversion

## TODO: describe lla-to-ecef

4.2 Formation types

### TODO: describe formation types

4.3 Entering the formation

### **TODO:**Describe Formation Entering

### 4.4 Maintaining the formation

### TODO:

Describe entering the formation

## Implementation details

#### TODO:

describe implementation details

### 5.1 FlightGear

#### TODO:

talk about FlightGear

### 5.2 QGroundControl

#### TODO:

talk about QGroundControl

### 5.3 MY CODE

#### TODO:

talk about code, class-diagrams, describe methods, data-structures

## Use cases

TODO: describe use cases
TODO: captures of 3 formations
TODO: captures of flight-path
TODO: possible missions

## Conclusions and future work

#### TODO:

describe conclusions and future work with low priority

TODO: Add appendixes

## Bibliography

[1] ADD BIB.