Development & Construction of an Autonomous Path-Following Drone

Eduard Scherer

October 2, 2024

1 Introduction

do at the end of the writing process

2 Personal Motivation

rather short

3 Literature Review

3.1 general software considerations

why I choose the software (work around the same topic that already exists)

4 Methodology

(only what has been done + which parts are needed and why I choose them)

4.1 parts

- **Kakute H7**, comes with betaflight

4.2 soldering

4.3 ardupilot

4.3.1 Ground Station

ground station = software running on ground-based computer, transmit data to the UAV and can control it

- **Mission Planner** widely used and has a wiki(Open Source)

–

- **Mavproxy**, for Linux used for code developers, written in Python(Open Source)

- some considerations for Smartphone (might be useful for connection between Raspi and ground)

downloading of latest stable Ardupilot firmware for Kakute H7 fc

loading Ardupilot firmware onto Fc with STM32 CubeProgrammer by connecting the Fc in DFU(Direct Firmware Update) Mode with the computer(quick explanation box for STM32 and DFU mode)

reconnecting Fc with Comp. opening Mission Planner and connecting to Fc seeing first Yaw measurements

5 Results

6 Discussion and Outlook

7 Conclusion

8 References

9 Table of Figures

(short table on which every figure description with the page number is listed)