



# Building a Quadcopter with Arduino

By Vasilis Tzivaras



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Building a Quadcopter with Arduino By Vasilis Tzivaras



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## Key Features

- Grasp the knowledge required to assemble your drone with light and cost effective materials
- Enlighten your understanding about the flight by performing step-by-step pre-flight adjustments and acquiring the instructions for a safe flight
- Get the best tips to deal with performance issues related to your quadcopter

## Book Description

Quadcopters, also known as quadrotors, are gaining more and more popularity in today's world. With the help of these devices, anyone can have an “eye in the sky” and can monitor any place at any time. You can capture photographs and once a while and perform automated tasks. In this book, you will be informed about all the basic modules and electronics needed to fly a simple quadcopter. You'll delve deep to create a fully-functional quadcopter quickly with the help of Arduino boards. Through this book, you'll develop the skills needed to build a DIY drone that can capture pictures and record videos.

## What you will learn

- Review and choose the most suitable material for the build
- Set up and calibrate all of your electronic parts
- Control and fly your quadcopter taking into account the weather conditions
- Maintain your vehicle as much as possible and repair it whenever required
- Engineer the structure of your vehicle
- Develop a flight controller with its basic principles
- Eliminate possible malfunctions in the future
- Repair your drone if it crashes or faces any damage

## About the Author

**Vasilis Tzivaras** is a software developer and hardware engineer who lives in Ioannina, Greece. He is currently an undergraduate student of the Department of computer science and Engineering at Ioannina. Alongside his studies, he is working on many projects relevant to robotics, such as drones, home automation, and smart home systems using Arduino and the Raspberry Pi. Furthermore, he is enthusiastic about clean energy solutions and cultural innovation ideas.

He has worked for the University Hospital of Ioannina as an assistant for various computer issues, and he has been part of the support team of his CSE department

for over a year. He has participated in IEEE UOI Student Branch and other big organizations, such as FOSSCOMM, with personal presentations for website designing, programming, Linux systems, and drones.

As a member of IEEE University of Ioannina Student Branch, he has proposed many projects and solutions to automate homes and many other life problems by reducing the time of everyday routines. In addition to this, he has come up with ideas to entertain kids with funny and magical projects using Arduino-like hardware and open source software. Many of the projects can be found at his GitHub account under the name of BillyTziv.

Apart from this book, he has also worked on another book Programming in C, which is not yet published. In addition to this, he has written for blogs, forums, guides, and small chapters, explaining and sharing his knowledge of computers, networks, and programming.

### **Table of Contents**

1. Introduction to Quadcopters
2. Hardware Overview
3. Creating a Frame
4. Soldering the Electronics
5. Electronics Installation
6. Flight Controller Setup
7. Flight Instructions
8. Cameras and Extra Functions
9. Repair and Maintenance

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### Editorial Review

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