

# Vivek Radhakrishnan

vivekrk44@gmail.com | +1 (347) 294 8197 | New York

## SUMMARY

Accomplished Senior Robotics Engineer with over a decade of experience in designing, developing, and deploying advanced robotics systems. Specialized in perception and planning for autonomous systems, with a proven track record of delivering innovative solutions that enhance operational efficiency and performance. Extensive experience in embedded software development, particularly in UAVs, with strong proficiency in C++, Python, and Linux. Adept at both hardware and software integration, passionate about leveraging cutting-edge technology to transform industries.

## EDUCATION

### **M.Sc. in Robotics**

New York University, New York  
2021 - 2023

### **B.Sc. in Electrical Engineering**



Birla Institute of Technology and Science, Dubai  
2010 - 2014

## PATENTS

A system for charging a battery in an aircraft

- Utility, No. 18/467,202 (Pending, 2023)
- Provisional, No. 63/375,638 (Granted, 2022)

## LINKS

 website  
 linkedin

## SKILLS

- C++, Python
- PX4, VOXL, Betaflight, Arducopter
- PCB, CAD
- Robotics system design
- Autonomous systems development
- Embedded software development
- Linux application development
- Cross-functional team collaboration
- Analytical problem solving
- Startup environment adaptability

## EXPERIENCE

### **ZEROFLAI** - Co-Founder & CEO

07/23 - Present

- Designed and implemented autonomous charging systems for UAVs, enhancing mission continuity without human intervention.
- Developed tight integrated system with PX4 and QGroundcontrol for unified mission control.

### **Agile Robotics and Perception Lab** - Researcher

09/21 - 09/23

- Developed and optimized perception and planning algorithms, improving UAV tracking accuracy.
- Introduced a perception framework for universal object detection, increasing target visibility in challenging conditions.
- Developed a model-free controller for resilient quadrotor visual tracking.

### **Technology Innovation Institute** - Senior Researcher

07/20 - 08/23

- Developed algorithms for autonomous UAVs leading to a substantial increase in operational performance.
- Collaborated with cross-functional teams to integrate advanced robotics solutions, resulting in an improvement in overall system efficiency.

### **Algorhythmia** - Systems Integration Engineer

10/18 - 06/20

- Implemented control and perception subsystems for autonomous aerial platforms, reducing error rates.

### **BUT nv.** - Lead Hardware Engineer

05/15 - 09/18

- Led hardware engineering projects, focusing on the development and deployment of interactive media and robotics solutions.

### **The Assembly** - In House Engineer

10/14 - 05/15

- Delivered workshops and built innovative projects in robotics and IoT, fostering hands-on learning and practical application.

### **Etisalat** - UAV Engineer

08/14 - 10/14

- Developed UAV solutions for the Smart City Project, contributing to winning the Drones for Good Award.

## PEER-REVIEWED PUBLICATIONS

Unifying Foundation Models with Quadrotor Control for Visual Tracking Beyond Object Categories

*IEEE International Conference on Robotics and Automation, 2024*

Directed Graph Topology Preservation in Multi-Robot Systems with Limited Field of View Using Control Barrier Functions

*IEEE Access, 2023*

AutoCharge: Autonomous Charging for Perpetual Quadrotor Missions

*IEEE International Conference on Robotics and Automation, 2023*

Vision-based Relative Detection and Tracking for Teams of Micro Aerial Vehicles

*IEEE/RSJ International Conference on Intelligent Robots and Systems, 2022*

Challenges in Vision-based Drones Navigation

*IEEE/RSJ International Conference on Intelligent Robots and Systems, 2019*

Autonomous Unmanned Aerial Vehicle for Reconnaissance based on Robotic Operating System

*Third Symposium on Indoor Flight Issues, 2013*