# Karthik Rangarajan

# Graduate Student - Robotics, Mechatronics and Automation

3 years of experience as Product Engineer and led the team efficiently, Skilled in Robotics. Proficient in OpenCV|Python|C|C++, Fusion360 and electrical systems. Developed neural network to detect power line using drones.

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- Brooklyn, New York ♀
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  - github.com/Karthik-Ranga 🎧

## EDUCATION

### MS - Robotics and Mechatronics

New York University

08/2017 – 05/2019

## **Bachelor of Engineering**

S.J.C. Institute of Technology 08/2009 – 06/2013

## WORK EXPERIENCE

## Education Tutor

### K12-Stem Education

01/2018 – Present

Brooklyn

3.34

#### Achievements/Tasks

- Successfully taught Fusion 360 CAD designing, simulation, rendering, animation from the knowledge of Solidworks.
- Ongoing with teaching Robotics and entrepreneurship experiences among teachers and students.
- Successfully initiated drone program and developing curriculum for elementary and middle school.

# Product Engineer

Centum Electronics Pvt Ltd

09/2014 – 08/2017

Bangalore, India

Tasks/ Accomplishments

- Successfully managed the project by meeting the customer specifications on PCB designs and manufacturing in numerous projects.
- Developed FMEA's, APQP's and evaluated the new processes like AOI and AXI automation, POP assembly.
- Successfully implemented project on Automation in industry by developing in-house software to track, maintain, record parts, components and assembled parts.

## **Program lead** RC Club - Bangalore

10/2013 - 07/2017

Bangalore, India

#### Achievements/Tasks

- Club turned Startup venture where beginners in the field of drones were trained in piloting, controlling under LOS.
- Designing and developing UAV's and multirotors using Ardupilot and Pixhawk for path planning based applications.
- Successfully designed Tilt-wing drone, dual sided axis multirotor with obstacle avoidance and waypoints.

# **SKILLS & COMPETENCES**



## PROJECTS

Successfully designed conceptual Robotic snake which can shapeshift. (01/2018 – Present)

- https://youtu.be/\_KwFBScRFpc
- https://www.youtube.com/watch?v=PQZY7PegZjE

Successfully completed drone prototype to detect power lines using magnetic field and electric field data. (07/2018 – 12/2018)

Developed algorithms using PyTorch framework to detect power lines from drone's camera and CPU. (08/2018 – Present)

Designed Way-point navigation system in Multi-rotor and Designed First Person View. (03/2016 – 09/2016)

Successfully developed and tested a Vertical Take-off and Landing(VTOL) Aircraft Prototype. (09/2012 – 05/2013)

## ACHIEVEMENTS

Patented stair-climbing stroller which can be used without being carried on stairs. (02/2018 – Present)

Certified for Autonomous robotics conducted by TECHNOPHILIA SYSTEMS.

Certified for Electronic Design Automation (EDA) using Allegro OrCAD.

3 month course on designing PCB's

# INTERESTS

FPV Freestyle	Drone designing		UAV's
Multi-rotors	RC flying	TED talks	