

THANGA RAJ T

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CAREER OBJECTIVE

To enhance my skills, capabilities & knowledge in an organization which recognizes the value of hard work and trust me with responsibilities and challenges.

EXPERIENCE

Virginia Tech India Research & Education Forum

Designation: Engineer

Duration: 2.5+ years

February 2021 – Present

- ✓ Worked on **Design & Development of Drone for Plant Disease Identification (funded by IIT Delhi)** to provide solution for crop health monitoring and disease identification using drone and machine learning algorithms.
 - ✓ Developed an hexa-copter for crop data collection (Worked with pixhawk, Mission planner & QGC).
 - ✓ Done Simulation on MATLAB UAV Toolbox for hexa-copter development.
 - ✓ Done 10+ hours of test flight & PID Tuning for hexacopter.
 - ✓ Worked on RGB & Multi-spectral camera for data collection.
 - ✓ Worked on Mapping softwares for Orthomosaic and NDVI generation.
 - ✓ Developed IOT based real time crop monitoring for ground truthing.
 - ✓ Developed Deep learning based (CNN) algorithm for detecting the tomato plant disease & Pest.
 - ✓ Developed UI & front-End on web-app for this Project.
- ✓ Worked on **Mining Project** - Mapping a open-pit Limestone mine for the Annual IBM Report submission using drone.
 - ✓ Done Surveying the mine with DGPS using RTK Modules.
 - ✓ Done mapping and post processing works using PIX4D, WebODm & QGIS for generating various outputs has required by the IBM Annual Compliance Report.
 - ✓ Assisted our client on IBM Report submission from start to end of the project.
- ✓ Conducted a **POC and demo for IMD** (Indian Meteorological Department) - Developed an hexacopter with very high T/W ratio for high altitude (up-to 6500ft) operation (To measure the atmospheric parameters using Radiosonde instead of using balloons).
- ✓ Worked on an **R&D Project to find the Effective Agricultural Spraying practices using drone**(in collaboration with Virginia Tech US).
 - ✓ worked on this project as a pilot to optimize agricultural spraying methods using 16L drone.
 - ✓ Tested different types of Spraying Nozzles, Droplet size, Swath optimization, drone speed to optimize the agricultural spraying practices.
- ✓ Worked on the development of an **RPTO (Remote pilot Training Organization)** while the company enter into the new vertical of drone pilot training.
 - ✓ Developed SOP, SORA, and Log Books for RPTO in compliance with DGCA requirements.
 - ✓ Developed the training materials for the RPTO as per the DGCA syllabus for pilot training.
 - ✓ Regular interaction and working along with DGCA on RPTO documents scrutinizing and the RPTO authorization.
- ✓ worked on a the development of **indoor UGV** for various applications.
 - ✓ worked on initial calculations.
 - ✓ Done the integration work of the UGV.
 - ✓ Tested on different surfaces and Environment to ensure the performance & reliability.
 - ✓ worked on Indoor Navigation systems such as stereo cameras & Lidars.

- ✓ Worked on the development of Disinfection device based on UV-C light.
 - ✓ worked on initial calculations and compliance of the UVC disinfection device.
 - ✓ Compared traditional disinfection method with UV and conducted multiple trails in a lab environment.
 - ✓ Tested the developed UV device against the Known bacterial strain to identify the effectiveness of our device.
- ✓ Developed a open-source potentiostat for analyzing the electrochemical activity.
 - ✓ worked on circuit designing and simulation in EasyEDA.
 - ✓ Designed PCB for the potentiostat using Ki-cad.

Skills

- ✓ Drone integration,
- ✓ Drone piloting – 100+hrs of flying Multi-rotors,
- ✓ 3D Prototyping & Fiber Lay-up manufacturing.
- ✓ PID Tuning for Multi-rotors.
- ✓ PIX4D, QGIS, ArcGIS, WebODm,
- ✓ Programming – C, Python, SQL & Embedded C, HTML & CSS
- ✓ Computer vision (Worked on various Object detection projects)
- ✓ PCB Designing – Easy EDA & Ki CAD,
- ✓ Arduino, ESP32 & Raspberry PI.
- ✓ MATLAB - UAV Toolbox

ACHIVEMENTS, CERTIFICATION & EXTRA-CURRICULAR ACTIVITIES

- ✓ DGCA Certified Remote Pilot Instructor for small category (Validity:2023 – 2033).
- ✓ DGCA Certified Remote Pilot (Validity: June 2022 – June 2032).
- ✓ Drone Flyer ID from CAA, UK (Validity: January 2023 – January 2028).
- ✓ Volunteering Aerothon 2022 is the drone design, build & fly event conducted by SAE India.
- ✓ Mentoring college students on drone Assembly, integration, and testing for final year projects.

EDUCATION

Degree	Year	University/Institution	Percentage
M.Tech – Big Data Analytics	2022-2024	Veltech University	70
B.E. – Biomedical Engineering	2017-2021	Anna University, Chennai.	80
12 th	2017	Shri Vel's Estate Mat. Hr. Sec. School, Avadi, Chennai.	78
10 th	2015	Shri Vel's Estate Mat. Hr. Sec. School, Avadi, Chennai.	92

ACADEMIC PROJECTS

Payload Dropping Mechanism using Drone.

- ✓ Developed payload dropping mechanism using drone.
- ✓ To make medicine delivery.

Plegia Aider

- ✓ An assistive device used to improve the Quadriplegic patients (Paralysis Patients) life by reducing their dependency on others.
- ✓ It works based on eye blinks.

INTERNSHIP

- ✓ VIRGINIA TECH INDIA RESEARCH CENTER, Trained on Drone Integration Feb 2021.
- ✓ ACS Medical college and Hospital, Trained on various medical devices Dec 2018.

LANGUAGES KNOWN

- ✓ English
- ✓ Tamil (Native)

PERSONAL DETAILS

Name : THANGA RAJ T
Date of Birth : 18-10-1999
Gender : Male
Nationality : Indian
Father's Name : Thangaperumal S
Mother's Name : Dhanalakshmi T
Hobbies : Aeromodelling.
Address : 686, Gangai Amman Kovil Street, Kollumedu, Vellanur, Chennai-600062.

DECLARATION

I am hereby confirming that the information given above is true to the best of my knowledge and belief.

Place:

Date:

(THANGA RAJ T)