



# BALASUBRAMANIAN S

DRONE ENGINEER

## CONTACT

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## HARDSKILLS

- End-to-End UAV Design
- UAV Assembling and Maintenance
- Drone Weight Optimization
- UAV Piloting
- 3D Modeling & CAD Software:
  - SolidWorks
  - Fusion 360
- Structural Analysis:
  - Finite Element Analysis (FEA),
  - ANSYS
  - Inventor Nastran
- Fluid Dynamics:
  - ANSYS Fluent
  - Metacomp CFD ++
- Manufacturing Techniques:
  - Composite Manufacturing
  - FDM 3D Printing
  - SLS 3D Printing
  - MJF 3D Printing
- Power Systems:
  - Li-ion Battery Pack Making
- Electronics & Integration:
  - PCB Board Design
  - Sensor Integration
- Soldering and Spot Welding
- Drone data preprocessing
- LiDAR data preprocessing
- QT Modeler
- Pix4D
- Geotagging

## PROFILE

An inventive engineer who is interested in design and real-world experiments, who began working at ISRO and then joined a group firm, led a team to successfully create a few unmanned systems indigenously. I currently work for a fledgling drone manufacturing firm, and I've created several drones from the ground up. pushing boundaries and raising the bar at work.

## PROFESSIONAL EXPERIENCE

### Latrics Aerospace Pvt Ltd | CTO

2022- Present

- **End-to-End UAV Design:** Spearheaded comprehensive UAV design with a focus on aesthetic appeal, performance optimization, manufacturability, and ease of assembly, consistently delivering high-quality, functional, and visually striking UAVs
- **Advanced Prototyping and Testing:** Developed initial prototypes using **FDM 3D printing** to validate mechanisms and fittings, followed by precise **SLS and MJF 3D models** for thorough performance testing and quality assurance
- **Structural Analysis & Design Optimization:** Conducted **Finite Element Analysis (FEA)** to optimize structural integrity, reducing weight while ensuring durability and resilience under various operational stresses
- **Power Systems & PCB Design:** Designed and developed **Li-ion battery** packs and **basic PCB power distribution boards** to enhance power efficiency and ensure dependable power management in UAV systems
- **Sensor & Camera Integration:** Integrated complex sensor systems, including **detect-and-avoid sensors** and **video camera assemblies**, to enhance UAV functionality and support diverse, application-specific data collection needs
- **Advanced Manufacturing Techniques:** Oversaw production processes such as **aluminum machining, carbon fiber layup, RTM, and Prepreg** methods to achieve optimal strength-to-weight efficiency in high-performance UAVs
- **Flight Operations:** Accumulated **200+ hours of UAV pilot experience**, demonstrating advanced operational proficiency and ensuring reliable data capture in varied environments
- **Data Preprocessing & Software Expertise:** Skilled in **drone data preprocessing, LiDAR data preprocessing**, and proficient with **QT Modeler, Pix4D, and geotagging** software to streamline workflows and enhance data accuracy



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## SOFT SKILLS

- Leadership
- Decision making
- Time management
- Multi-tasking
- Teamwork
- Problem solving
- Adaptability
- Attention to details
- Quick Learning

## EDUCATION

### Masters in Aerospace Engineering

Defence Institute of Advanced Technology

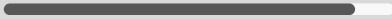
2018-2020

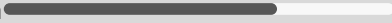
### Bachelors in Mechanical Engineering

Anna University

2013-2017

## LANGUAGES

Tamil 

English 

## PROFESSIONAL EXPERIENCE

### Geokno India Pvt Ltd | Senior UAV Engineer

2020 - 2022

- **Efficient UAV Development:** Spearheaded design and production improvements that resulted in a 20% faster production timeline and 15% reduction in costs
- **Performance Enhancement:** Enhanced UAV capabilities to achieve 30% longer flight time and 25% increased payload capacity, ensuring robustness in extreme environments
- **Reliability Engineering:** Developed comprehensive maintenance protocols, reducing downtime by 25% and extending UAV lifespan by 20% for improved long-term performance
- **Inventory Management Optimization:** Optimized inventory and supply chain processes to prevent delays, ensuring seamless access to critical components and boosting production efficiency
- **Team Leadership & Collaboration:** Effectively led cross-functional teams across design, prototyping, and testing phases, ensuring smooth project execution and high-quality final products

### Vikram Sarabhai Space Centre | M.Tech

2019 - 2020

- Spearheaded complex thermal analysis for a reentry vehicle, ensuring strong performance in demanding tests.
- Published and presented four influential research articles, considerably contributing to the growth of knowledge on the subject.
- Thermal analysis techniques were meticulously applied, demonstrating the depth of study and skill in the area.

## ACHIEVEMENTS

### Specialized UAV Products:

- **Survey & Security UAV:** Engineered a lightweight UAV under 2 kg with 50+ minutes of endurance, optimized for aerial surveys and security applications
- **LiDAR Survey UAV:** Developed a 9 kg UAV with 50+ minutes of endurance and enhanced payload capacity, designed specifically for LiDAR data collection and demanding survey operations
- **200+ drone flying hours**