Nithin Chandran

Date of birth: 13/09/2001

Nationality: Indian

Gender: Male

CONTACT

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CERTIFICATIONS

- **ASNT Central Certification Program Level II**

  - Radiography Testing

  - Ultrasonic Testing

  - Visual Testing

  - Penetrant Testing

  - Magnetic Particle Testing

SOFTWARE

- **Solidworks**
- **AutoCAD**
- **Ansys**
- **Repetier Host**
- **Microsoft Word**
- **Microsoft PowerPoint**
- **Canva**
- **Arduino IDE**
- **Adobe Draw**

PROFESSIONAL EXPERIENCE

13/03/2023 – 12/03/2025

Graduate Apprentice at VSSC-ISRO

I am currently working as a Graduate Apprentice at the Vikram Sarabhai Space Centre (VSSC), a premier centre of the Indian Space Research Organization (ISRO) dedicated to the development of launch vehicle technology and various space systems.

In this role, I am gaining hands-on experience in the field of Mechanical Engineering. I am involved in various projects and tasks related to aerospace ordinance device manufacturing, Explosive Assemblies, design, and the development of pyro devices .

As part of a project, I designed a functional test fixture specifically for the reefing line cutter used in the drogue and main parachutes of the Gaganyaan crew module.

I also had an opportunity to design a vibration test fixture for both the reefing line cutter and the bolt cutter. This fixture was developed to validate both devices against the rigorous vibration parameters necessary for human-rated space missions, ensuring their structural integrity and functionality are preserved even under the harsh mechanical stresses encountered during spaceflight.

This position has allowed me to apply my academic knowledge in a practical setting, enhancing my skills in Computer-Aided Design (CAD), aerospace device manufacturing, and the design and testing of pyromechanical devices. My work at VSSC-ISRO contributes to the advancement of India's space research and development efforts, providing me with invaluable experience and insights into the aerospace industry.

EDUCATION

2023

Bachelor of Technology (Mechanical Engineering)

APJ Abdul Kalam Technological University, TKM Institute of Technology
CGPA: 7.73/10

2019

12th - CBSE

All India Senior School Certificate Examination (AISSCE)
6.7/10 GPA

2017

10th - CBSE

All India Secondary School Examination (AISSE)
10/10 GPA

LEADERSHIP SKILLS

- **Chief Executive Officer**

Innovation and Entrepreneurship Development Centre, TKMIT

- **Asso. Volunteer Secretary**

National Service Scheme, Unit 544, TKM Institute of Technology

PROFESSIONAL BODY

Institute of Engineers India (IEI)

Member - Student Chapter

Membership No :

691505/TKMI/MC/00031

LANGUAGE

- **English**
- **Malayalam**
- **Hindi**

FIELD OF INTEREST

- **New Product Development**
- **Manufacturing**
- **Maintenance**
- **Design**
- **Projects**

OTHER SKILLS

- **Decision Making**
- **Team Work**
- **Work under pressure**
- **Coordination**
- **Good Interpersonal Communication Skills**

REFERENCES

Vineeth G M

Devision Head, Space Ordinance Mechanism Devision, VSSC-ISRO

+91 8943303165

PROJECTS

13/03/2024 – 12/03/2025 (VSSC - ISRO)

Functional test fixture for Reefing Line cutter (RLC)

Designed the functional test fixture for the reefing line cutter (RLC) used in the drogue and main parachutes of the Gaganyaan crew module. The fixture simulates real-world conditions to evaluate the cutter's operational performance, ensuring reliable activation, cutting efficiency, and functionality under varying load, tension, and environmental conditions. It also includes redundancy evaluation and data acquisition systems to certify the RLC for human-rated space missions.

Vibration test fixture for Reefing line cutter

Designed the vibration test fixture for the reefing line cutter (RLC) used in the Gaganyaan crew module. This fixture is used to evaluate the devices' ability to withstand the vibrational forces experienced during spaceflight, ensuring their structural integrity and performance under the harsh conditions of launch, flight, and re-entry. The fixture qualifies the RLC against human-rated mission vibration parameters, ensuring compliance with safety and operational standards.

Vibration test fixture for Bolt cutter

Designed the vibration test fixture for the bolt cutter used in stage separation of a human-rated launch vehicle. This fixture is specifically designed to assess the bolt cutter's performance under extreme conditions experienced during launch and flight, including high-frequency vibrations and mechanical shocks. The testing process simulates the dynamic environment of the launch vehicle to ensure the bolt cutter operates reliably and effectively during critical stage separation events. This fixture qualifies the bolt cutter against stringent vibration parameters required for human-rated missions, ensuring its structural integrity and operational readiness, which are essential for mission success and astronaut safety.

11/11/2022 – 10/04/2023

MARS (Multipurpose Articulated Robotic System)

Developed an articulated robotic system that is both cost-effective and low-maintenance, aiming to eliminate human error, enhance production rates, and cater specifically to the needs of small-scale industries and startups. This system is designed with adaptability in mind, allowing for easy configuration with various end-effectors, including a laser head, drilling tool, pen holder, and more. Furthermore, it is well-suited for use in confined areas and excels particularly in repetitive and monotonous work. Currently the prototype incorporates a laser head. Additionally, the system is equipped with an intuitive and user-friendly interface to ensure convenient operation.

08/07/2022 – 29/07/2022

Iot Home Automation

Developed IoT based Smart Home Automation Using Blynk & ESP32 to control an 8-channel relay module from the manual switch & smartphone using the Blynk App. If the internet is not available, then it can control the home appliances from manual switches.

VOLUNTEERING & LEADERSHIP

Innovation and Entrepreneurship Development Centres

As CEO of IEDC TKMIT, I had the opportunity to conduct numerous technical and skill-oriented programs that provided students with the chance to experiment and innovate. Through collaborations with Kerala Startup Mission, ICT Academy, and YIP, our ex-com was able to offer students a platform for learning, growth, and networking.

National Service Scheme (NSS)

NSS Volunteer and Associate Volunteer Secretary of NSS unit 544. Completed 800 hours of active volunteering under NSS from the academic year 2020 to 2022. Involved in many socially recognized activities including Environment awareness campaign, educational assistance initiatives for the socially and economically backward students, disaster management ventures.

Student Convenor (AMET)

I was appointed as the student convenor of 2-day workshop and exhibition on "Space Technology," which was organized by the Association of Mechanical Engineers TKMIT (AMET) in association with ISRO and the Indian Society for Heat and Mass Transfer Regional Chapter, Trivandrum. The workshop and exhibition were attended by more than 200 students from different colleges across Kerala. Additionally, the exhibition drew the attention of more than 1000 school students.As the student convenor, I was responsible for coordinating with the organizing committee and managing various tasks, such as event promotion, registration, and logistics.

DECLARATION

I hereby declare that the above mentioned details are true to the best of my knowledge and belief.

DATE:05/10/2024 **NITHIN CHANDRAN**