# Internship Progress Report

## Intern Details

Intern Name: Omkar Rajesh Auti

PRN: 21510042

Internship Period: 17/03/2025 – 17/06/2025

Company/Organization Name: Centre for Computational Technologies Pvt. Ltd. (CCTech)

Department: Consultancy department

Supervisor Name: Nem Kumar Sir, Snehal Patil

Report Date: 12/05/2025

## Introduction

Centre for Computational Technologies Pvt. Ltd. (CCTech) is a leading organization specializing in computational fluid dynamics (CFD), software development, and consulting services. The company provides innovative solutions for industries such as aerospace, automotive, and architecture.

The objective of my internship was to gain hands-on experience in consultancy services, enhance my technical skills, and contribute to ongoing projects. My specific goals included improving my problem-solving abilities, learning industry-standard software tools, and understanding real-world applications of computational technologies.

## Work Summary/Tasks Performed

I developed my own framework to facilitate the transformation of custom-created data structures, including points, lines, cuboids, cylinders, spheres, triangles, and other geometric elements. This framework enhances computational efficiency and expands the capabilities of existing simulation tools.

## 3. Skills Acquired/Improved

During my internship, I enhanced several technical and soft skills, including:

* **Technical Skills:** simulation, problem-solving, and software tools such as GNUPlot.
* **Soft Skills:** Team collaboration, effective communication, time management, and report writing.

Additionally, I attended a training session on system design, which broadened my understanding of complex systems.

## 4. Challenges Faced and Solutions

Some of the challenges I encountered during my internship included:

* **Understanding complex simulation software:** Initially, I struggled with configuring GNU Plot simulations. However, I overcame this by following tutorials, seeking guidance from my supervisor, and practicing regularly.
* **Time management:** Balancing multiple tasks was challenging. I addressed this by prioritizing tasks, setting deadlines, and maintaining a structured workflow.

## 5. Achievements and Contributions

* Developed a custom framework for transforming geometric data structures, enhancing simulation capabilities.
* Received positive feedback from my supervisor for accurate report documentation.

## 6. Learning and Future Goals

This internship has significantly contributed to my career development by providing practical exposure to computational technologies. It has strengthened my technical expertise in Simulation softwares and improved my problem-solving skills.

In the future, I aim to explore advanced topics in simulation and machine learning integration in engineering applications. I am also interested in pursuing certifications in CFD and related fields.

## 7. Conclusion

My internship at CCTech was a valuable learning experience that allowed me to apply theoretical knowledge to real-world projects. The supportive work environment and guidance from my supervisor helped me enhance my technical and professional skills. I am grateful to CCTech and my mentor, Snehal Patil, for this opportunity, and I look forward to applying these learnings in my future career endeavours.