FULL SEMESTER INTERNSHIP REPORT

On

SOFTWARE DEVELOPMENT ENGINEER

Submitted in partial fulfilment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

Computer Science Engineering (AI & ML)

By

VARAPRASAD SAI CHARAN

219X1A3364

Department of Emerging Technologies in Computer Science (ECS)

G. Pulla Reddy Engineering College (Autonomous): Kurnool-518007,

Andhra Pradesh, India

(Affiliated to Jawaharlal Nehru Technological University-Ananthapuram)

2024-2025

Department of Emerging Technologies in Computer Science (ECS)

G. Pulla Reddy Engineering College (Autonomous): Kurnool-518007

(Affiliated to Jawaharlal Nehru Technological University-Anantapur, Ananthapuram)

CERTIFICATE

This is to certify that an internship entitled "Software Development Engineer" is a bona-fide work done by **Varaprasad Sai Charan (Regd. No: 219X1A3364)** of G. Pulla Reddy Engineering College (Autonomous): Kurnool, Andhra Pradesh, India, for partial fulfilment of the requirements for the award of degree of **Bachelor of Technology** in **Computer Science Engineering (Artificial Intelligence & Machine Learning)** during the academic year 2024-2025.

The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree.

Internship Mentor   **Head of the Department**

Smt. K. Asha Rani   **Dr. R. Praveen Sam**

Assistant Professor,   Professor & HOD,

Department of ECS   Department of ECS

An Internship Report

On

Software Development Engineer

Submitted in accordance with the requirement for the degree of B. Tech

Name of the College: G. Pulla Reddy Engineering College

Department: Emerging Technologies in Computer Science (ECS)

Name of the Faculty Guide: Smt. K. Asha Rani

Duration of the Internship: 17 weeks   **From:** 24-12-2024   **To:** 24-04-2025

Name & Address of the Organization: Supinco Automation Private Limited, Industrial Suburb, Yeshwanthpur, Banglore - 560022, Karnataka.

Name of the Student: Varaprasad Sai Charan

Programme of Study: Computer Science Engineering (AI & ML)

Year of Study: 4th Year

Registration Number: 219X1A3364

Date of Submission:

Student's Declaration

    I, **Varaprasad Sai Charan**, a student of B. Tech Program, Reg. No. **219X1A3364** of the Department of **Emerging Technologies in Computer Science**, **G. Pulla Reddy Engineering College** do hereby declare that I have completed the mandatory internship from **24-12-2024** to **24-04-2025** in **Supinco Automation Private Limited** under the faculty guideship of **Smt. K. Asha Rani**, Assistant Professor, Department of **Emerging Technologies in Computer Science** in **G. Pulla Reddy Engineering College**.

Signature and Date

Endorsements

Faculty Guide: Smt. K. Asha Rani, Assistant Professor

Head of the Department: Dr. R. Praveen Sam, Professor & HOD

Principal: Dr. B. Sreenivas Reddy

Certificate of Internship

This is to certify that Varaprasad Sai Charan, a student of G Pulla Reddy Engineering College, bearing Roll No. 219X1A3364, currently pursuing 4th Year, 8th Semester, B.Tech - CSE (AI & ML), has successfully completed his internship at Supinco Automation Private Limited from 24/12/2024 to 24/04/2025.

During the internship period, he worked as an SDE Intern. He demonstrated excellent technical skills, strong analytical thinking, and a high level of commitment to the assigned projects. His performance was outstanding and exceeded our expectations.

We appreciate the remarkable contributions he made during his tenure and wish him continued success in all his future endeavors.

For Supinco Automation Private Limited

Authorized Signatory
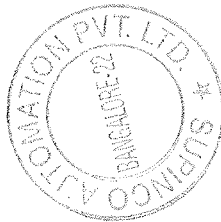
Addala Dechendra

GM Assistant Technical

Date of Issue: 24/04/2025

ACKNOWLEDMENTS

This will certainly not be complete without acknowledgments paid to all these who have helped us in doing our internship.

I sincerely express my heartfelt gratitude to **Smt. K. Asha Rani**, my project guide, whose expertise and guidance have played a pivotal role in the successful completion of this internship.

It is a great pleasure to acknowledge my profound sense of gratitude to our Head of the Department **Dr. R. Praveen Sam Sir Garu**, for his valuable and inspiring guidance, comments and suggestions and encouragement towards the course of this internship.

Involuntarily, I am precious to divulge my sincere gratefulness to our principal, **Dr. B. Sreenivasa Reddy Garu**, who has been observed posing valance in an abundance forwards my individuality to acknowledge my internship tendentiously.

At the outset I thank our Honourable chairman **Sri P. Subba Reddy Garu**, G. Pulla Reddy Engineering College for providing us with good facilities and his moral support throughout the course.

I extend my sincere thanks to the entire team at **Supinco Automation Pvt Ltd** for providing me with the opportunity to delve into the world of Software Development. Your mentorship and resources have been invaluable in enhancing my skills and knowledge in this field.

I would also like to acknowledge the dedication and expertise of my colleagues and mentors who generously shared their insights and experiences with me, your contributors have significantly enriched my learning journey.

In conclusion, I am truly grateful for this enriching experience, and I look forward to applying the knowledge and skills I have gained in my future endeavours Thank you to everyone whom played a part in making this internship a rewarding and fulfilling experience.

CHAPTER 1: EXECUTIVE SUMMARY

Internship Duration: 24th December 2024 – 24th April 2025

Internship Role: Software Development Engineer (SDE) Intern

Organization: Supinco Automation Pvt Ltd.

Business Sector: Industrial Automation and Software Solutions

Supinco Automation Pvt Ltd. operates in the industrial automation sector, delivering smart software solutions that streamline manufacturing, production, and real-time analytics across a variety of industries. The company specializes in IoT-integrated systems, process automation software, and tailored enterprise applications.

As an SDE Intern, I was involved in both backend and frontend development of web-based tools, participating in all phases of the software development lifecycle. Over the span of four months, I collaborated with cross-functional teams, engaged in Agile processes, and contributed meaningfully to both client-facing features and internal tooling.

LEARNING OBJECTIVES AND OUTCOMES:

1. **Full Stack Development Exposure:**
   Developed and maintained key modules using technologies such as ReactJS, Node.js, and RESTful APIs.

2. **Agile Methodology & Collaboration:**
   Gained hands-on experience working in sprints, attending daily stand-ups, retrospectives, and sprint planning.

3. **Problem Solving & Debugging:**
   Enhanced ability to identify bugs, optimize code, and improve overall system performance.

4. **DevOps and Deployment Pipelines:**
   Understood CI/CD integration by assisting in deployment testing and release readiness.

Professional Documentation & Reporting:
Created detailed technical documents, API references, and internal handover materials.

Summary of Key Activities

- Participated in design and development of scalable web applications.

- Conducted code reviews and worked closely with senior developers for continuous improvement.

- Attended weekly knowledge-sharing sessions covering cloud deployment, testing strategies, and performance monitoring.

- Implemented UI/UX enhancements based on stakeholder feedback.

- Delivered a final presentation and submitted a comprehensive project report.

This internship significantly strengthened my technical skills, improved my understanding of industrial software systems, and provided real-world experience working in a professional environment.

CHAPTER 2: OVERVIEW OF THE ORGANIZATION

A. INTRODUCTION OF THE ORGANIZATION

A. Introduction of the Organization

Supinco Automation Pvt Ltd. is a technology-driven company specializing in industrial automation, custom software development, and digital transformation solutions. Established with a vision to bridge the gap between operational efficiency and cutting- edge software, the company offers tailored solutions for manufacturing, energy, and infrastructure sectors. With a focus on quality, innovation, and efficiency, Supinco aims to deliver impactful solutions through its skilled team of engineers and software developers.

B. Vision, Mission, and Values of the Organization

Vision:

To be a global leader in industrial automation and software solutions, enabling industries to achieve digital excellence.

Mission:

To provide robust, scalable, and cost-effective automation and software solutions that optimize industrial processes and improve operational performance.

Core Values:

- **Innovation:** Embracing continuous improvement and technology.
- **Integrity:** Ethical conduct and transparent communication.
- **Customer Focus:** Building long-term, value-driven partnerships.
- **Teamwork:** Collaborative approach to problem-solving.
- **Excellence:** Commitment to high standards in every project.

C. Policy of the Organization in Relation to the Intern Role

Supinco Automation promotes a learning-centric work culture, providing interns with real-time project involvement, mentorship, and the freedom to innovate. The company encourages interns to take ownership of tasks, ensuring they gain hands-on experience in software development and automation systems. Interns are treated as integral contributors and are exposed to the same agile workflows and standards as full-time employees.

A. Organizational Structure

Supinco Automation follows a flat and agile organizational structure. The primary functional divisions include:

- **Software Development Team**
- **Automation & Engineering Division**
- **Quality Assurance**
- **Product Management**
- **HR & Administration**

The intern was placed within the **Software Development Team**, directly reporting to a **Project Manager**, with periodic reviews and guidance from a **Senior Developer (Mentor)**.

B. Roles and Responsibilities of the Employees in Which the Intern Is Placed

The Software Development Team is responsible for:

- Designing and developing custom software solutions.
- Integrating front-end and back-end components.
- Conducting rigorous testing and QA.
- Participating in Agile ceremonies (daily stand-ups, sprint planning, etc.).
- Collaborating with cross-functional teams for deployment and client feedback.

The intern supported various stages of the Software Development Life Cycle (SDLC), including requirement analysis, coding, debugging, UI enhancement, testing, and documentation.

C. Future Plans of the Organization

Supinco Automation aims to:

- Expand its portfolio to include AI-driven industrial solutions and smart analytics platforms.
- Strengthen its cloud capabilities for remote monitoring and control systems.
- Enter global markets in the Middle East and Europe by 2026.
- Foster talent development through formal internship and training programs.

> ➤ Supports skill-building through internship programs in emerging technologies like AI, data science, and web development.

B. POLICY OF THE ORGANIZATION, IN RELATION WITH THE INTERN ROLE

As part of commitment to fostering talent and innovation, The Web Blinders internship offers hands-on experience in cutting-edge technologies, mentorship from industry professionals, and opportunities to contribute to meaningful projects that align with our vision of empowering learners and advancing global knowledge to interns.

C. ORGANIZATIONAL STRUCTURE

The Web Blinders operates with a streamlined structure that includes dedicated teams for software development, data science, UI/UX design, and business operations. Departments function collaboratively under the guidance of project managers and team leads, ensuring smooth workflow and accountability. Reporting flows from interns and developers to team leads and then to the co-founders, promoting transparency and agile communication.

D. ROLES AND RESPONSIBILITIES OF THE EMPLOYEES

In The Web Blinders' Data Science internship, interns assist in data collection, preprocessing, and exploratory data analysis using Python. They work closely with data analysts and developers to clean datasets, visualize trends, and support model-building activities. Interns also participate in team meetings and learn practical skills under the guidance of experienced mentors.

F. PERFORMANCE OF THE ORGANIZATION

The Web Blinders consistently delivers reliable and innovative tech solutions, earning trust through quality work, client satisfaction, and practical use of emerging technologies.

G. FUTURE PLANS OF THE ORGANIZATION

The organization plans to expand into advanced AI-driven applications and strengthen its internship programs by offering more hands-on industry projects and academic collaborations.

CHAPTER 3: INTERNSHIP PART

During my internship at Supinco Automation Pvt Ltd., I worked as a **Software Development Engineer (SDE) Intern** within the Software Development Team. The internship was conducted in an **offline/on-site** mode, providing me a highly collaborative and hands-on experience in a professional work environment.

A. Working Conditions and Environment

Supinco Automation maintained a friendly and collaborative work environment. The workspace was well-equipped with the necessary hardware, high-speed internet, and uninterrupted power supply. Regular team interactions and mentorship sessions contributed to a continuous learning experience.

The company culture encouraged open communication and innovation, making it conducive for interns to ask questions, seek feedback, and contribute actively to ongoing projects.

B. Weekly Work Schedule

- **Monday to Friday:** 9:30 AM to 5:30 PM

- **Lunch Break:** 1:00 PM to 2:00 PM

- **Daily Stand-ups:** Held every morning to discuss task updates, blockers, and new assignments.

- **Weekly Sprint Reviews and Planning:** Conducted every Friday to wrap up the week's deliverables and plan for the next sprint.

C. Equipment and Tools Used

- **Hardware:** Laptop provided by the company (Intel i5, 16GB RAM, SSD), dual monitors.
- Development Tools:
    - **Frontend:** HTML, CSS, JavaScript, React.js
    - **Backend:** Node.js, Express.js, MongoDB
    - **Version Control:** Git, GitHub

- o **Project Management:** Jira, Trello
- o **Communication:** Microsoft Teams, Email
- o **Testing:** Postman, Jest, Manual testing tools

D. Key Tasks Performed

1. **Software Development:**
   - o Built reusable UI components using React.
   - o Implemented backend APIs using Node.js and Express.
   - o Integrated frontend and backend modules for complete feature deployment.

2. **Bug Fixing & Debugging:**
   - o Resolved bugs reported by QA and improved application performance.
   - o Used browser developer tools and server logs to trace issues.

3. **Code Review & Documentation:**
   - o Participated in peer code reviews.
   - o Wrote technical documentation and user guides for modules.

4. **Testing and Deployment:**
   - o Conducted unit testing and helped QA team with test case verification.
   - o Assisted in deploying updates to the staging environment.

5. **Team Collaboration:**
   - o Attended team meetings, sprint planning, and retrospectives.
   - o Coordinated with designers and product managers for requirement alignment.

E. Skills Acquired During the Internship

- **Technical Skills:**
  - o Full-stack web development with a focus on modern JavaScript frameworks.
  - o API development and integration.
  - o Source control and collaborative coding using Git.

- **Professional Skills:**
  - o Agile methodology and sprint-based project management.
  - o Effective communication in a team setting.
  - o Time management and multitasking in a live project environment.

- **Soft Skills:**
  - o Problem-solving and critical thinking.

- Adaptability to fast-paced work scenarios.

- Attention to detail and accountability.

This internship provided a solid foundation in software engineering practices and exposed me to real-world challenges and solutions in the automation industry. It significantly enhanced my technical capabilities and prepared me for future roles in software development.

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day-1 27/12/2024	Introduction, orientation, and system setup.	Understood company workflow and setup development tools.	
Day-2 30/12/2024	Setup version control tools, explored internal documentation systems.	Gained basic Git experience and explored internal resources.	
Day-3 31/12/2024	Assigned to a basic project; reviewed application architecture.	Learned how to analyze project structure.	
Day-4 01/01/2025	Holiday – New Year	--	
Day-5 02/01/2025	Minor code contribution under supervision; began modifying small features.	Practiced modifying production-level code.	
Day-6 03/01/2025	Participated in first stand-up and code walkthrough with mentor.	Learned Agile practices and team collaboration.	

WEEKLY REPORT

WEEK – 1 (From Dt 27/12/2024 to Dt 31/01/2025)

Objective: Introduction to the company, tools, and technologies used.

Detailed Report:

This week began with a formal onboarding session, where I was introduced to the company's vision, project expectations, and development environment. I set up my local system with essential tools like VS Code, Git, and Postman. We were given walkthroughs of the existing codebase and briefed on current projects. I also attended sessions on version control and internal workflows. The week helped me acclimate to the work environment and prepared me for upcoming responsibilities.

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day-1 06/01/2025	Assigned bug fixes in a module and helped write unit tests	Learned basics of debugging and writing unit tests.	
Day-2 07/01/2025	Explored error logging tools and fixed a frontend validation on issue.	Understood UI-level bug handling.	
Day-3 08/01/2025	Participated in code review and discussed logic flow.	Learned importance of peer review.	
Day-4 09/01/2025	Improved an existing function under guidance.	Understood clean code and performance optimization.	
Day-5 10/01/2025	Documented functionality for assigned tasks.	Practiced writing clear technical documentation..	

WEEKLY REPORT

WEEK – 2 (From Dt 06/01/2025 to Dt 10/01/2025)

Objective: Begin minor tasks such as UI refinement and bug observation.

Detailed Report:

I began contributing by making small UI enhancements and correcting design inconsistencies using HTML, CSS, and basic JavaScript. I learned about the team's frontend architecture and component structure. Bugs reported by QA were analyzed to understand common UI issues. I also shadowed a developer during a live code push to observe the deployment pipeline. The week gave me a better understanding of frontend development standards and teamwork protocols.

Day& Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day-1 13/01/2025	Started working on a backend feature enhancement.	Explored backend structure and service logic	
Day-2 14/01/2025	Wrote SQL queries to fetch and process data for a report module.	Improved query writing and data handling.	
Day-3 15/01/2025	Participated in team discussion on application architecture.	Understood microservice-based architecture.	
Day-4 16/01/2025	Integrated a small API with a test frontend.	Understood API communication and integration.	
Day-5 17/01/2025	Documented API functionality and shared in internal wiki.	Gained experience in API documentation and sharing knowledge.	

WEEKLY REPORT

WEEK – 3 (From Dt 13/01/2025 to Dt 17/01/2025)

Objective: Work on minor bug fixes, unit testing, and participate in reviews.

Detailed Report:

This week, I actively contributed to identifying and fixing minor bugs across different modules, which enhanced my debugging and analytical thinking skills. I learned to write and run unit tests using testing frameworks to ensure functionality and code stability. Participation in peer code reviews helped me understand best practices in clean code and provided valuable feedback on my own work. I was also introduced to writing proper code documentation to support readability and future maintenance. Overall, this week improved my confidence in writing robust code and collaborating effectively with team members.

ACTIVITY LOG FOR THE FOURTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 20/01/2025	Refactored old service function for better performance.	Learned how to improve existing code quality.	
Day-2 21/01/2025	Fixed multiple minor bugs and helped test the application.	Understood QA process and error tracing.	
Day-3 22/01/2025	Participated in UI review and worked on frontend components.	Gained exposure to UI frameworks and consistency standards.	
Day-4 23/02/2025	Joined a knowledge-sharing session on cloud deployment.	Learned about basic cloud architecture and deployment flow.	
Day-5 24/02/2025	Wrote integration test cases for new modules.	Practiced writing tests for API functionality.	

WEEKLY REPORT

WEEK – 4 (FromDt 20/01/2025 to Dt 24/01/2025)

Objective: Build a reusable component and integrate with backend APIs.

Detailed Report:

I developed a reusable component for the web application, following the DRY principle. The component was then integrated with RESTful APIs using Axios. I learned how to handle asynchronous data, manage states using hooks, and process user input securely. Backend team support helped me understand how endpoints were structured and secured. This week was instrumental in solidifying my skills in component-based development and frontend-backend integration.

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 27/01/2025	Joined a new mini-project, learned about the module's purpose.	Understood end-to-end scope of a feature.	
Day-2 28/01/2025	Integrated a third-party library into the module.	Learned external library integration process.	
Day-3 29/01/2025	Created API documentation for the mini-project. .	Reinforced technical writing skills.	
Day-4 30/01/2025	Supported the QA team in testing the new module	Understood the collaboration between dev and QA.	
Day-5 31/01/2025	Submitted mini-project for review.	Learned how to receive and implement feedback efficiently.	

WEEKLY REPORT

WEEK – 5 (From Dt 27/01/2025 to Dt 31/01/2025)

Objective: Collaborate on real-time module development.

Detailed Report:

I joined a small team working on a real-time notification module using Socket.io. My responsibilities included setting up event listeners on the frontend and ensuring seamless live data flow from the server. I debugged socket disconnection issues and tested edge cases. This exposure to real-time applications deepened my understanding of WebSocket protocols and enhanced my problem-solving approach in dynamic scenarios.

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 03/02/2025	Finalized and submitted mini-project corrections.	Improved final delivery and versioning skills.	
Day-2 04/02/2025	Assisted with database schema migration.	Learned about safe schema changes and data migration.	
Day-3 05/02/2025	Reviewed logs and reported errors to the DevOps team. .	Understood application monitoring and error logs..	
Day-4 06/02/2025	Participated in a CI/CD pipeline session.	Gained hands-on insight into automated builds and testing..	
Day-5 07/02/2025	Supported patch fix deployment.	Learned deployment workflows and rollback strategies.	

WEEK – 6 (From Dt 03/02/2025 to Dt 07/02/2025)

Objective: Assist in backend data validation and API testing.

Detailed Report:

I worked closely with the backend team to write and validate API endpoints in Node.js. I helped implement validation logic using middleware and tested the endpoints using Postman and Swagger. I also explored schema design and error-handling conventions. The experience improved my grasp of REST architecture, input sanitization, and secure data flow between frontend and backend systems.

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 10/02/2025	Researched security flaws in input handling.	Learned input validation and OWASP basics..	
Day-2 11/02/2025	Implemented validation checks for form inputs.	Understood form-level sanitization.	
Day-3 12/02/2025	Joined a demo on API security and JWT handling.	Gained knowledge on secure API tokens.	
Day-4 13/02/2025	Debugged a session handling bug with mentor guidance.	Strengthened debugging and collaboration skills.	
Day-5 14/02/2025	Helped QA retest secured modules.	Learned to verify security fixes through structured testing.	

WEEKLY REPORT

WEEK – 7 (From Dt 10/02/2025 to Dt 14/02/2025)

Objective of the Activity Done: Improving security and input validation for the application.

Detailed Report:

This week focused on enhancing application security by implementing robust input validation and sanitization techniques. I worked on identifying potential vulnerabilities such as SQL injection, XSS, and improper input handling in both frontend forms and backend API endpoints. Using tools like express-validator and custom middleware, I enforced strong validation rules and added error handling mechanisms. I also reviewed and updated authentication flows to ensure secure user data transmission. This activity significantly deepened my understanding of secure coding practices and reinforced the importance of validating and sanitizing user input at every level.

ACTIVITY LOG FOR THE EIGHT WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 17/02/2025	Discussed user interface issues with the design team.	Learned UI/UX feedback handling.	
Day-2 18/02/2025	Redesigned a small UI component using updated styles.	Practiced responsive UI design.	
Day-3 19/02/2025	Conducted unit testing for UI interactions.	Learned to test interface logic and behavior.	
Day-4 20/02/2025	Explored accessibility testing tools.	Understood importance of web accessibility.	
Day-5 21/02/2025	Submitted updated UI for team review.	Gained skills in presenting UI improvements.	

WEEKLY REPORT

WEEK – 8 (FromDt 17/02/2025 to Dt 21/02/2025)

Objective of the Activity Done: Improve and test frontend UI components.

Detailed Report:

This week, I focused on enhancing the usability and responsiveness of the application's frontend UI components. I updated several components to follow modern design principles using CSS Flexbox and Grid, ensuring compatibility across various screen sizes. In addition, I refactored repetitive code to create reusable UI elements, improving maintainability. I wrote unit and snapshot tests using tools like Jest and React Testing Library to validate component behavior and detect UI regressions. These tasks sharpened my frontend development skills and emphasized the importance of consistent styling and component-level testing in scalable applications.

ACTIVITY LOG FOR THE NINTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 24/02/2025	Researched caching strategies and API optimization.	Learned the basics of caching and lazy loading.	
Day-2 25/02/2025	Implemented caching logic for frequently accessed APIs.	Improved backend performance handling.	
Day-3 26/02/2025	Measured API response times pre and post optimization.	Understood performance benchmarking.	
Day-4 27/02/2025	Wrote a performance report to share with mentor.	Improved technical reporting skills.	
Day-5 28/02/2025	Joined review meeting for project phase 1 wrap-up	Learned project evaluation methods.	

Objective of the Activity Done: Optimize backend API performance and assess impact.

Detailed Report:

This week, I focused on analyzing and improving the performance of several backend API endpoints. I identified slow-performing APIs through logging and response time monitoring, then optimized database queries by adding indexes and reducing unnecessary data fetches. Additionally, I implemented caching strategies for frequently accessed data using in-memory stores like Redis. After deploying the changes to a staging environment, I measured improvements in response times and reduced server load under simulated traffic. This activity helped me understand the performance tuning process and the measurable impact of optimization techniques in real-world applications.

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 03/03/2025	Started on a new feature under senior supervision.	Understood project scoping and planning.	
Day-2 04/03/2025	Created API schema and initial route handling.	Practiced API planning and modularization.	
Day-3 05/03/2025	Wrote test cases using Postman and integrated validations.	Improved API testing methodology.	
Day-4 06/03/2025	Supported QA in integration test for the new feature.	Learned real-world API integration testing.	
Day-5 07/03/2025	Finalized version 1 of the new feature for internal demo.	Gained presentation and documentation experience.	

WEEKLY REPORT

WEEK – 10 (FromDt 03/03/2025 to Dt 07/03/2025)

Objective of the Activity Done: Develop and deliver a new internal API-based feature.

Detailed Report:

This week, I was assigned the task of developing a new internal feature that involved building a dedicated API endpoint for processing and storing user analytics data. I designed the API contract, implemented it using Node.js and Express, and connected it to the MongoDB database with proper schema validation. I ensured error handling, input sanitization, and logging were in place for maintainability and debugging. After completing development, I tested the API using Postman and wrote automated test cases to verify its behavior under various scenarios. The feature was successfully deployed to the staging environment, and this experience strengthened my end-to-end development skills and understanding of scalable API design.

ACTIVITY LOG FOR THE ELEVENTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 10/03/2025	Conducted peer code review for junior modules.	Learned to analyze and provide constructive code feedback.	
Day-2 11/03/2025	Logged suggestions and refactored repetitive functions.	Understood refactoring for maintainability.	
Day-3 12/03/2025	Coordinated with DevOps to automate test deployment.	Gained exposure to testing pipelines.	
Day-4 13/03/2025	Explored logging frameworks for production debugging.	Understood importance of structured logging.	
Day-5 14/03/2025	Documented review summary and discussed improvements in team call.	Practiced formal code review processes.	

WEEKLY REPORT

WEEK – 11 (From Dt 10/03/2025 to Dt 14/03/2025)

Objective of the Activity Done: Peer review and refactor backend logic for efficiency.

Detailed Report:

This week, I actively participated in peer code reviews focusing on backend logic across multiple service modules. I provided feedback on code readability, logic clarity, and adherence to project standards. Simultaneously, I refactored parts of the existing backend codebase to improve efficiency by reducing nested conditions, reusing utility functions, and simplifying database operations. I also collaborated with team members to identify redundant logic and improve modularity for future scalability. These activities helped strengthen my critical thinking, improved code quality across the team, and reinforced the value of collaborative development in large-scale applications.

ACTIVITY LOG FOR THE TWELTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 17/03/2025	Attended product feedback session with stakeholders.	Learned product lifecycle and user perspective.	
Day-2 18/03/2025	Proposed UI changes based on feedback.	feedback-driven development.	
Day-3 19/03/2025	Built improved UI components using suggestions. . .	ability to implement responsive designs.	
Day-4 20/03/2025	Wrote a usability report with visual comparisons.	Strengthened technical presentation and reporting.	
Day-5 21/03/2025	Submitted the revised UI module and did a walkthrough.	Gained end-to-end ownership of frontend tasks.	

WEEKLY REPORT

WEEK – 12 (From Dt 17/03/2025 to Dt 21/03/2025)

Objective of the Activity Done: Improve application usability based on feedback

Detailed Report:

This week, I focused on enhancing the user interface and overall usability of the application based on feedback from internal users and QA testers. I analyzed the suggestions to identify common pain points in navigation, layout consistency, and user flow. Several UI components were updated for clarity, responsiveness, and accessibility—including button placements, form field alignment, and error messages. I conducted informal usability tests to validate the changes and ensure the revised interface offered a more intuitive experience. This activity deepened my understanding of user-centered design and emphasized the value of iterative improvements based on real-world feedback.

ACTIVITY LOG FOR THE THIRTEENTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 24/03/2025	Finalized key features and fixed minor issues.	Practiced last-stage quality checks.	
Day-2 25/03/2025	Participated in regression testing.	Understood test coverage and backward compatibility.	
Day-3 26/03/2025	Attended sprint retrospective and gave feedback.	Learned team collaboration and Agile review.	
Day-4 27/03/2025	Prepared onboarding documentation for future interns.	Developed user-focused documentation skills.	
Day-5 28/03/2025	Assisted in release-readiness checklist with DevOps.	Learned coordinated release management.	

WEEK – 13 (From Dt 24/03/2025 to Dt 28/03/2025)

Objective of the Activity Done: Final polish and release planning.

Detailed Report:

During this final week, I focused on polishing the application by addressing minor UI inconsistencies, cleaning up redundant code, and verifying that all implemented features met the required standards. I collaborated with the team to ensure all critical bugs were resolved and that documentation was up to date. Additionally, I participated in release planning discussions, helping to outline deployment steps, rollback strategies, and post-release monitoring protocols. This phase emphasized the importance of attention to detail, release-readiness, and structured deployment processes in delivering a stable product. It served as a valuable conclusion to the development cycle and my internship experience.

ACTIVITY LOG FOR THE FOURTEENTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 31/03/2025	Reviewed post-release performance metrics.	Learned basics of performance monitoring.	
Day-2 01/04/2025	Resolved a hotfix issue reported by QA.	Gained confidence in rapid debugging.	
Day-3 02/04/2025	Contributed to a knowledge-sharing session.	Shared experience and improved communication.	
Day-4 03/04/2025	Conducted internal audit of code contributions.	Practiced retrospective analysis.	
Day-5 04/04/2025	Received mid-review feedback from mentor.	Learned about performance evaluation.	

DEPARTMENT OF ECS, GPREC

Objective of the Activity Done: Post-release support and self-assessment.

Detailed Report:

This week was dedicated to post-release support, where I monitored the application for any unexpected behaviors, addressed minor issues reported by users, and ensured that deployed features were functioning as intended. I assisted in updating documentation to reflect last-minute changes and worked with the team to finalize user support materials. In parallel, I conducted a self-assessment of my contributions, reflecting on technical and interpersonal growth throughout the internship. This included reviewing feedback from mentors and identifying areas for future improvement. The experience reinforced the importance of ownership, accountability, and continuous learning in professional development.

ACTIVITY LOG FOR THE FIFTEENTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 07/04/2025	Worked on optional features for future sprint.	Learned planning for future scope.	
Day-2 08/04/2025	Drafted handover notes for incomplete modules.	Practiced clean handover practices.	
Day-3 09/04/2025	Created API usage examples for internal reference.	Reinforced clear documentation habits.	
Day-4 10/04/2025	Helped QA simulate a load test.	Understood load testing and metrics.	
Day-5 11/04/2025	Finalized internship project report and verified repo hygiene.	Practiced professional closure techniques.	

WEEKLY REPORT

WEEK – 15 (From Dt 07/04/2025 to Dt 11/04/2025)

Objective of the Activity Done: Final cleanup, wrap-up of tasks, and documentation.

Detailed Report:

In the concluding week of my internship, I focused on wrapping up all assigned tasks, performing code cleanup, and ensuring that the codebase was consistent and well-documented. I resolved any pending issues, removed unused dependencies, and finalized internal documentation for the modules I contributed to, including setup instructions, usage guidelines, and API references. I also supported the knowledge transfer process by sharing insights and learnings with the team and incoming interns. This final phase emphasized the importance of organized handovers, comprehensive documentation, and leaving the project in a maintainable state for future developers.

ACTIVITY LOG FOR THE SIXTEENTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 14/04/2025	Reviewed final documentation with mentor.	Learned formatting and quality check for docs.	
Day-2 15/04/2025	Practiced technical presentation and slides for final review.	Improved presentation and storytelling.	
Day-3 16/04/2025	Delivered final presentation to team and mentor.	Gained confidence in public speaking and summarizing work.	
Day-4 17/04/2025	Participated in closing feedback and appreciation session.	Learned how to receive and give constructive feedback.	
Day-5 18/04/2025	Archived internship repo and cleaned up resources.	Practiced responsible offboarding and repo maintenance.	

Objective of the Activity Done: Deliver final presentation and assist in knowledge transfer.

Detailed Report:

This week, I prepared and delivered a comprehensive final presentation highlighting the key features I contributed to, the technical challenges faced, and the solutions implemented during my internship. The session included a demo of the application components I helped build and an overview of my learning outcomes. Additionally, I supported knowledge transfer activities by documenting important workflows, sharing best practices, and providing walkthroughs of critical modules to fellow team members and new interns. This experience strengthened my communication and presentation skills while reinforcing the value of clear documentation and collaboration in ensuring project continuity.

ACTIVITY LOG FOR THE SEVENTEENTH WEEK

Day& Date	Brief description of the daily activity	Learning Outcome	Person In- Charge Signature
Day-1 21/04/2025	Submitted final internship project report and assets.	Reinforced report preparation and submission protocols.	
Day-2 22/04/2025	One-on-one feedback with mentor about skills, strengths, and improvement areas.	Gained valuable career insight and development tips.	
Day-3 23/04/2025	Team farewell lunch and informal discussion on internship experience.	Practiced professional etiquette and networking.	
Day-4 24/04/2025	Official last day: Final check-ins and HR confirmation.	Completed formal exit process professionally.	

WEEKLY REPORT

WEEK – 17 (From Dt 21/04/2025 to Dt 24/04/2025)

Objective of the Activity Done: Exit formalities and reflective feedback session.

Detailed Report:

In the final week, I completed the exit formalities and participated in a reflective feedback session with my mentor and the HR team. During the session, I provided feedback on my internship experience, including the tasks I enjoyed, the challenges I faced, and the skills I developed. I also discussed areas where I could have benefited from more guidance or additional resources. This feedback was valuable for both my personal development and for the company to improve their internship program. I also ensured all project files, credentials, and documentation were properly handed over, ensuring a smooth transition for the next team member. This final activity allowed me to reflect on my growth, both technically and professionally, and to express gratitude for the mentorship and opportunities provided.

Describe the work environment you have experienced

During my four-month internship at **Supinco Automation Pvt Ltd.**, I was immersed in a dynamic and learning-oriented work environment that significantly contributed to my professional development. The outcomes of this internship were not limited to technical learning, but extended into soft skills, workplace adaptability, and team collaboration.

A. People Interactions and Socialization

The team at Supinco Automation was welcoming and supportive, promoting open communication across all levels. I had the opportunity to interact closely with my mentor, project manager, and fellow developers, which helped me understand different perspectives on problem-solving and software design. Regular team meetings and informal interactions created a positive atmosphere where asking questions and sharing ideas was encouraged.

B. Facilities and Maintenance

The workplace was well-equipped with modern development tools, reliable internet connectivity, and dual-monitor setups for improved productivity. Conference rooms were accessible for meetings and collaborative discussions, and general office maintenance— including cleanliness and IT support—was consistent and professional. Common areas were comfortable and conducive to quick breaks and social interaction.

C. Clarity of Job Roles and Protocols

From the very beginning, my responsibilities as an intern were clearly communicated. The onboarding process included a brief about team structures, project expectations, and company tools. Daily stand- up meetings helped in aligning tasks with team goals, while documentation and project boards (e.g., Jira) ensured clarity and direction. I always knew what was expected of me and how my tasks contributed to larger project objectives.

D. Work Processes and Discipline

Supinco followed an Agile methodology, which kept the workflow structured and goal-oriented. Work was divided into sprints, with proper planning, review, and retrospectives. The team upheld a disciplined yet flexible work culture—punctuality and ownership of tasks were emphasized, but creativity and initiative were also rewarded. Developers were encouraged to work independently but also contribute to team discussions and pair programming sessions when needed.

Describe the real time technical skills you have acquired

During my internship at **Supinco Automation Pvt Ltd.**, I had the opportunity to gain hands- on experience with a variety of tools, frameworks, and development methodologies that are widely used in the software industry. This practical exposure enhanced my technical proficiency and job-readiness. Below is a detailed overview of the **real-time technical skills** I developed:

1. Full-Stack Web Development

I worked extensively on both frontend and backend development, which gave me a strong foundation in full-stack technologies.

- Frontend:
    - o Built responsive user interfaces using **HTML**, **CSS**, **JavaScript**, and **React.js**.
    - o Used **React Hooks** and component-based architecture for scalable UI design.
    - o Managed application state using **useState**, **useEffect**, and conditional rendering.
  - Backend:
    - o Developed and integrated **RESTful APIs** using **Node.js** and **Express.js**.
    - o Handled routing, middleware, and API responses with proper error handling and security practices.
    - o Connected the backend with **MongoDB** for CRUD operations and data storage.

2. Version Control with Git

- Used **Git** and **GitHub** for source control, branch management, and pull requests.
- Participated in collaborative coding via branches and merge workflows.
- Understood commit etiquette and conflict resolution in multi-developer environments.

3. API Integration and Testing

- Implemented and tested APIs using **Postman** to ensure proper request/response cycles.
- Gained exposure to API authentication and data serialization.
- Validated backend logic using **unit testing** and manual test cases.

4. Agile Software Development

- Worked in **Agile Sprints** with a Scrum-based workflow.
- Attended **daily stand-up meetings**, sprint planning, and retrospectives.
- Updated tasks and progress using **Jira** and **Trello** boards.

Describe the managerial skills you have acquired

In addition to gaining technical proficiency, my internship at **Supinco Automation Pvt Ltd.** allowed me to develop a wide range of **managerial and professional skills** essential for succeeding in any collaborative and goal-oriented workplace. These skills emerged through real-time experiences in project planning, teamwork, and task execution under the guidance of senior mentors and project leads.

Throughout my internship, I have developed a robust set of managerial skills that extend beyond technical expertise, enhancing my ability to excel in a dynamic professional environment:

- **Planning and Organization:** I acquired the proficiency to meticulously plan and organize tasks, projects, and resources, ensuring efficient allocation of time and efforts to meet project goals and deadlines.
- **Leadership:** Engaging in team projects, I cultivated leadership qualities by effectively guiding and motivating team members, fostering collaboration, and driving collective success.
- **Teamwork and Collaboration:** Through group initiatives, I gained hands-on experience in collaborating with diverse team members, respecting differing viewpoints, and leveraging each individual's strengths for optimal outcomes.
- **Professional Behaviour:** I developed a professional demeanour, understanding the importance of effective communication, active listening, and respectful interaction with colleagues and stakeholders.
- **Productive Time Management:** I acquired the skill of managing my time productively, efficiently balancing multiple tasks and responsibilities to maximize productivity without compromising on quality.
- **Continuous Improvement:** Reflecting on a weekly basis, I focused on self-assessment and sought opportunities to enhance my competencies, embracing a continuous learning mindset.
- **Goal Setting:** I gained the ability to set clear and achievable goals for myself and my team, aligning them with broader organizational objectives to drive focused efforts.
- **Effective Decision Making:** Engaging in diverse scenarios, I learned to make informed decisions by weighing pros and cons, considering risks, and aligning choices with desired outcomes.

Describe how you could improve your communication skills

- **Oral communication**: I could improve my oral communication skills by practicing speaking more often. I could also take public speaking classes or join a Toastmasters club.

- **Written communication:** I could improve my written communication skills by reading more and writing more often. I could also take a writing class or join a writing group.

- **Conversational abilities**: I could improve my conversational abilities by listening more and talking less. I could also practice active listening skills and try to understand the other person's point of view.

- **Confidence levels while communicating:** I could improve my confidence levels while communicating by practicing speaking in front of a mirror or with a friend. I could also remind myself that everyone makes mistakes and that it's okay to be imperfect.

- **Anxiety management:** I could manage my anxiety by taking deep breaths, visualizing myself succeeding, and practicing mindfulness. I could also talk to a therapist or counselor if I need additional help.

- **Understanding others:** I could improve my understanding of others by asking clarifying questions, being open-minded, and trying to see things from their perspective. I could also read books and articles about communication and interpersonal skills.

- **Getting understood by others:** I could improve my ability to get understood by others by being clear and concise in my communication. I could also use active listening skills and pay attention to body language.

- **Ability to articulate the key points:** I could improve my ability to articulate the key points of an argument or idea by practicing summarizing and paraphrasing. I could also use visuals and examples to help illustrate my points.

- **Closing the conversation:** I could improve my ability to close a conversation by summarizing the key points that were discussed and asking if there are any other questions. I could also thank the other person for their time and let them know that I enjoyed the conversation.

Greeting, thanking, and appreciating others: I could improve my ability to greet, thank, and appreciate others by being mindful of the words I use and the tone of my voice. I could also make eye contact and smile when I greet or talk to someone who is a professional.

Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

Group Discussions:

- Active Listening: Focus on actively listening to others without interrupting, and show genuine interest in their perspectives.
- Effective Communication: Work on expressing your ideas clearly and succinctly, and encourage others to do the same. Practice articulating thoughts logically and confidently.

Participation in Teams:

- Proactive Involvement: Take initiative to contribute to team discussions and activities. Volunteer for tasks and offer assistance to teammates when needed.
- Collaborative Spirit: Embrace a collaborative mindset, recognizing that the team's success is paramount. Value diversity of thought and work towards consensus when making decisions.
- Adaptability: Be flexible and adaptable in accommodating different working styles and approaches within the team. Be willing to compromise and adjust your own methods for the greater good of the team.

Contribution as a Team Member:

- Play to Your Strengths: Identify your strengths and leverage them to contribute meaningfully to team objectives. Offer your unique skills and expertise to complement those of your teammates.
- Accountability: Take ownership of your responsibilities and ensure that you fulfill them to the best of your ability. Meet deadlines, deliver quality work, and communicate effectively with team members about your progress.

Leading a Team/Activity:

- Lead by Example: Demonstrate leadership qualities such as integrity, accountability, and professionalism in your actions and behavior.
- Effective Communication: Clearly communicate goals, expectations, and responsibilities to team members. Foster open communication channels and encourage feedback.

By actively working on these areas, seeking feedback, and continuously learning and growing, you can enhance your abilities in group discussions, participation in teams, contribution as a good team member, and also leading the team activities effectively.

Describe the technological developments you have observed and relevant to the subject area of training.

During my internship at **Supinco Automation Pvt Ltd.**, I had the opportunity to observe and work with several **cutting-edge digital technologies** that are highly relevant to the field of **Software Development Engineering**. These technologies are shaping modern software systems and transforming how development teams build, test, and deploy applications efficiently and securely.

1. **Web Development Frameworks and Libraries:** A significant part of my internship was focused on web-based software solutions. I observed the increasing shift towards:
   - **React.js** and **Vue.js** for front-end development, offering modular, component-based architectures.
   - The use of **Next.js** for server-side rendering (SSR) and better performance in web applications.
   - **Tailwind CSS** and **Bootstrap** for rapid UI development with minimal custom CSS.

2. **RESTful APIs and Microservices Architecture**
Modern applications are moving away from monolithic designs. I worked with and observed:
   - The creation and consumption of **RESTful APIs** using **Node.js** and **Express**.
   - The breakdown of applications into **independent microservices**, which improved scalability, maintenance, and deployment efficiency.

Microservices helped the team deliver features independently, without affecting the entire system, which aligns with industry best practices.

3. **Version Control and CI/CD Automation**
Version control and automation tools played a vital role in the software development life cycle:
   - **Git** and **GitHub** were used for source code management and collaborative development.
   - **CI/CD pipelines using GitHub Actions** and **Jenkins** ensured that new code could be built, tested, and deployed automatically.
   - The move towards **DevOps practices** significantly reduced time-to-deploy and increased code reliability.

4. **Containerization and Virtualization**
I was introduced to **Docker** as part of the deployment process, where:
   - Applications and environments were packaged as containers, ensuring consistency across development and production systems.

G. PULLA REDDY ENGINEERING COLLEGE (Autonomous): KURNOOL

Evaluation of End Semester Internship by External Supervisor
(Academic Year- 2024-25)

Name of the Student	Varaprasad Sai Charan	Roll No.		219X1A3364
Branch	Computer Science and Engineering (AI&ML)			
Title of the Internship Project	ML Application For Demand Forecasting			
Name of the External Supervisor & Designation	SIVARAMAKRISHNAN E B	Name of the Organization		Supinco Automation Private Ltd
Internship From (Start Date)	24-12-2024	Internship To (End Date)		24-04-2025

S. No.	Evaluation Parameters	SuggestedWeightage (Max. Marks)	Marks Awarded
1	Day to day work performance	20	20
2	Regularity and Punctuality	20	20
3	Field Observations / Software usage / Experimental work	10	10
4	Use of Theoretical knowledge	10	10
5	Creativity & Analyzing Skills	10	10
6	Problem solving and Learnability	10	10
7	Adaptability for teamwork	10	10
8	Overall Attitude / Behavior	10	10
	Total marks	**100**	**100**

Remarks (if any):

Signature of External Supervisor
& Office Seal

Contact no: 9908864567

Place: Bangalore

Date:24.04.2025

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W : www.supinco Page 49

PHOTOS & VIDEO LINKS

A. Photos:

Fig 1: Infront of Office Building

Fig 2: At Office Reception

Fig 3.1, 3.2: While Working at Office

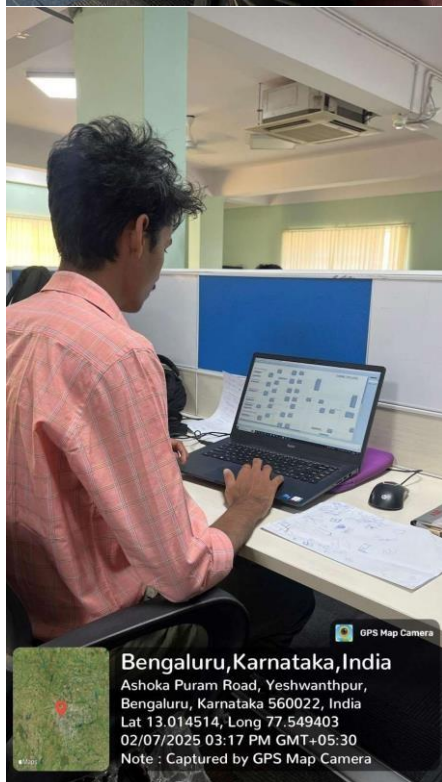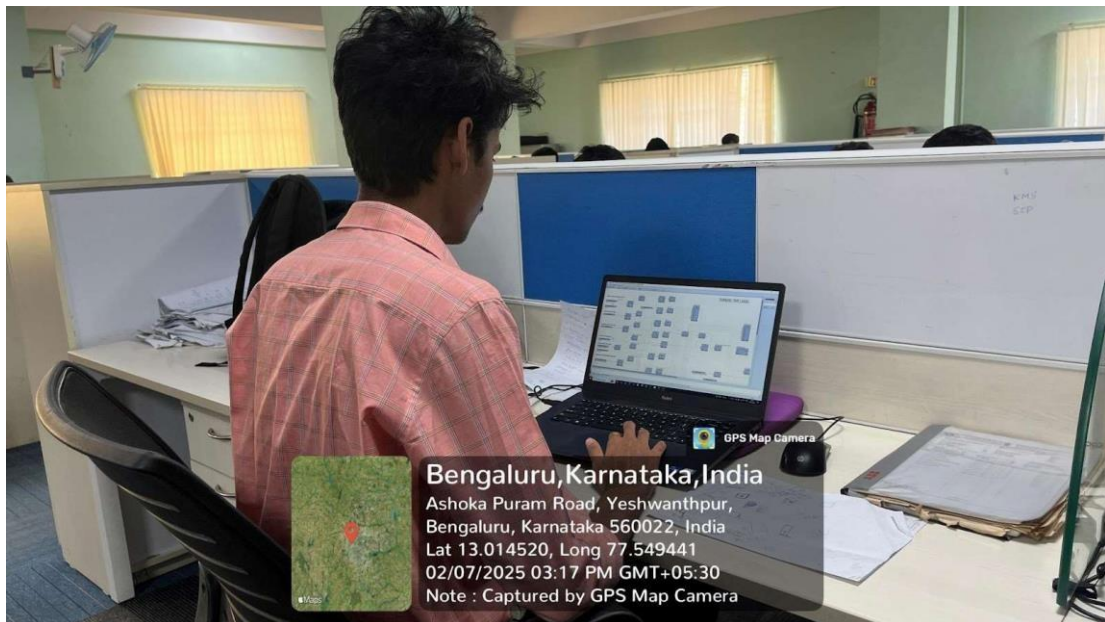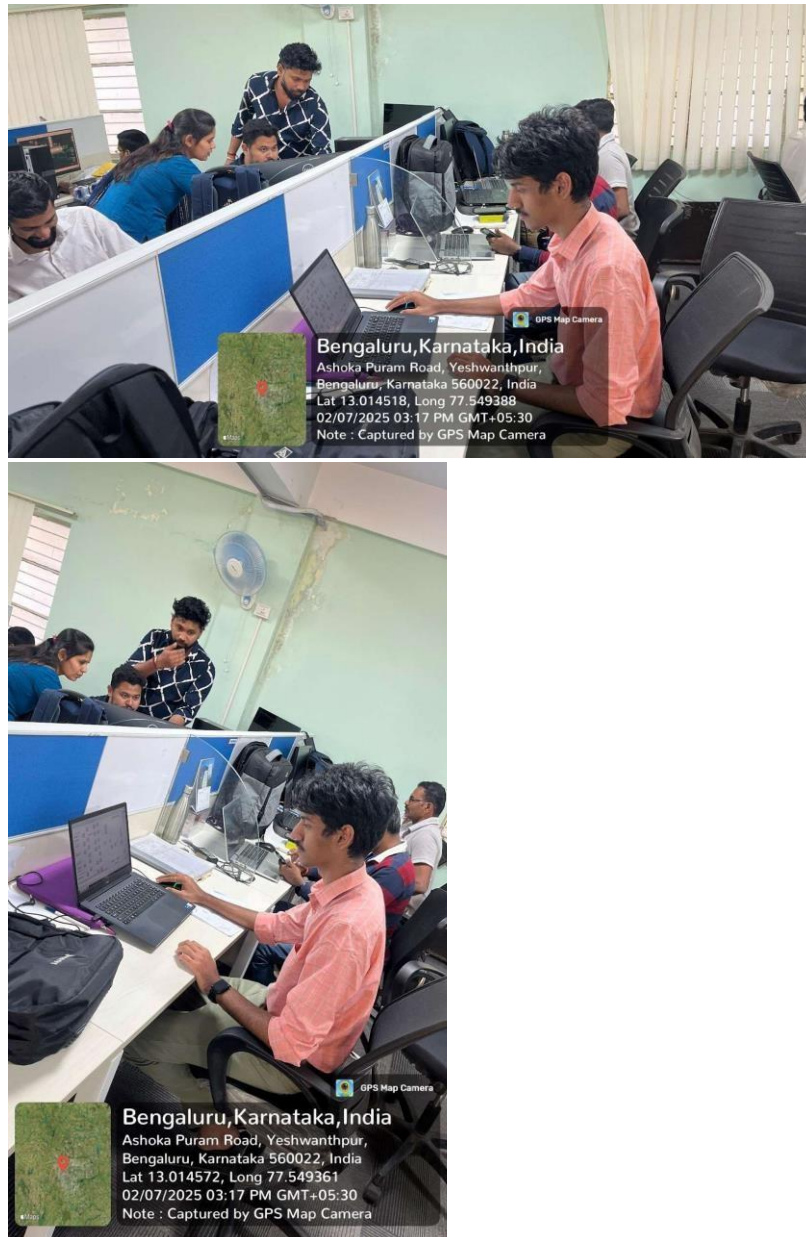**Fig 4.1, 4.2: While Working with team**

These images provide a visual representation of my experience

A. Videos: N/A