

INTERNSHIP REPORT

(Full Stack Web Development with MERN)

*A Summer Internship Report submitted in partial fulfillment of the
requirements for the award of degree of*

MASTER OF COMPUTER APPLICATIONS

Submitted

By

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24M11MC100



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U N I V E R S I T Y

DEPARTMENT OF COMPUTER APPLICATIONS

ADITYA UNIVERSITY

A.Y. 2025-26

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CERTIFICATE

This is to certify that the internship report entitled "**Full Stack Web Development with MERN**" is being submitted by **Medisetti Rajkumar (24M11MC100)** in partial fulfillment of the requirements for the award of the degree of **Master of Computer Applications** in the **Department of Computer Applications** for the academic year **2024–2025**.

This report is based on the internship carried out at Edunet Foundation in Collaboration with EY GDS & AICTE, and it reflects the student's own work, conducted under our guidance and supervision.

Guide/Supervisor Name

Mrs.GOWRI,
Assistant Professor

Head of the Department

Dr. M. VAMSIKRISHNA
Professor

DECLARATION

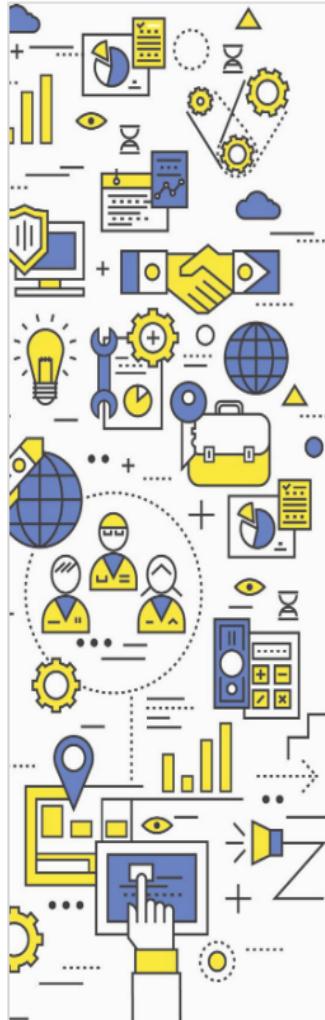
I hereby declare that the internship report entitled “**Full Stack Web Development with MERN**” is a genuine and original work submitted to **Aditya University, Surampalem**, in partial fulfillment of the requirements for the award of the **Master of Computer Applications (MCA)** degree.

I further declare that this report has not been submitted, either in full or in part, for the award of any degree or diploma at this or any other educational institution.

by

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edunet
foundation

CERTIFICATE OF APPRECIATION

Proudly presented to

MEDISETTI RAJKUMAR

STU ID: STU67b80abd4cb511740114621

for successful completion of the 6 weeks of internship in collaboration with

EY Global Delivery Services & AICTE on
Building Modern Web Applications with MERN Stack
under the **Next Gen Employability Program**
from **March 10, 2025 - April 18, 2025.**

Nagesh Singh
Chairman
Edunet Foundation



AICTENG25_46713

Dr. Buddha Chandrasekhar
Chief Coordinating Officer
AICTE

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It is with immense pleasure that I express my sincere thanks to **Mr. Ritik Patidar, Assistant Professor and Internship Coordinator**, for coordinating the internship process and facilitating the smooth submission and evaluation of reports.

I am deeply grateful to **Dr. M. Vamsikrishna**, Head of the Department, for his motivation, support, and for arranging all the necessary facilities and resources for the smooth execution of my internship project.

I also wish to extend my sincere thanks to **Gowri Mam**, my project guide, for their encouragement, valuable feedback, and consistent support throughout my internship.

I am thankful to the respected leadership of Aditya University for their unconditional support and for providing world-class infrastructure and state-of-the-art laboratories. My sincere thanks to:

- **Dr. Satish Reddy N**, Pro Chancellor
- **Dr. M. Sreenivasa Reddy**, Deputy Pro Chancellor
- **Dr. MB. Srinivas**, Vice Chancellor
- **Dr. S. Rama Sree**, Pro-Vice Chancellor (Academics)
- **Dr. Ramesh A**, Pro-Vice Chancellor (Engineering & Sciences)
- **Dr. Suresh G**, Registrar
- **Dr. M. Venkata Rajesh**, Associate Dean of Academics

Lastly, I would like to thank all the **faculty members, lab technicians, non-teaching staff**, and my **friends** who directly or indirectly helped and supported me in successfully completing my internship project on time.

SUMMER INTERNSHIP ABSTRACT

This Summer Internship Program provided me with an excellent opportunity to gain hands-on experience in Full Stack Web Development by working on real-world projects that demonstrated the capabilities of modern web technologies.

During the internship, I explored key areas of web development such as:

- Front-end and back-end technologies
- Responsive and interactive web design
- Full-stack application development

I worked collaboratively with mentors and developers to design, develop, and deploy web-based solutions. The program emphasized important industry practices including:

- Version control using Git and GitHub
- Code optimization and debugging
- Testing and performance improvement
- Creating proper technical documentation

This internship not only enhanced my technical and problem-solving skills but also deepened my understanding of web frameworks, tools, and project workflows, preparing me for a successful career in software and web development.

1. Programs & Opportunities

The Edunet Foundation Summer Internship Program, in collaboration with EY GDS and AICTE, provided an excellent opportunity to gain hands-on experience in Full Stack Web Development. This program offered practical exposure from day one by engaging interns in real-world projects that demonstrated the versatility of modern web technologies.

Feature	What I Gained
Training by Industry Experts	Attended expert-led sessions conducted by professionals who shared up-to-date practices, coding standards, and insights into industry trends.
Hands-on Projects	Worked on live assignments involving dynamic web applications, responsive interfaces, and server-side functionality using the MERN stack.
Certificate of Internship & Training	Received a recognized credential upon successful completion, validating the skills and experience gained during the program.

2. Training & Development

The internship provided a structured and flexible learning path to help me build a strong foundation in web development fundamentals and professional skills.

- Virtual Learning: The online sessions made it easy to balance academic and internship work while ensuring consistent learning progress.
- Real-World Application: Each concept was reinforced through hands-on projects and case studies that bridged theory with practice.

During the internship, I gained proficiency in technologies such as HTML, CSS, JavaScript, React.js, Node.js, Express.js, and MongoDB. I also learned about responsive web design, RESTful APIs, and version control using Git and GitHub, which are essential components of full-stack development.

3. Full-Time Opportunities

The Edunet Foundation Internship Program encourages continuous learning and professional growth. Top-performing interns are often recommended for full-time roles or advanced

training opportunities with partner organizations. This initiative helps students like me transition smoothly from academic learning to industry-level employment by developing both technical and collaborative skills.

4. Methodology

Throughout the internship, a structured and industry-aligned methodology was followed to ensure quality project outcomes:

1. **Discovery:** Analyzed project objectives, user requirements, and technical constraints.
2. **Solution Design:** Planned the architecture, selected the technology stack, and created UI wireframes and workflows.
3. **Implementation:** Followed Agile methodology with sprint-based development, version control (Git), peer code reviews, and testing.
4. **Optimization & Handover:** Conducted performance tuning, documentation, and knowledge sharing to ensure a smooth project transition.

This approach minimized errors and improved efficiency while delivering robust, scalable web applications.

5. Benefits to Companies & Institutions

Engaging with Edunet Foundation's web development program provides tangible benefits to both students and partner organizations:

1. **Scalability & Efficiency:** Modern frameworks ensure that web applications perform well under increasing loads.
2. **Enhanced User Experience:** Responsive, user-friendly interfaces improve accessibility and engagement.
3. **Faster Time-to-Market:** Agile sprints and continuous integration pipelines help in faster feature delivery.
4. **Cost Reduction:** Well-structured code reduces future maintenance and hosting expenses.
5. **Data-Driven Insights:** Integrated analytics offer valuable feedback for improvement.
6. **Security & Compliance:** Implementation of secure coding standards and privacy compliance ensures data integrity and reliability.

About organization

Edunet Foundation is a leading non-profit organization dedicated to empowering students and professionals through technology-driven education and skill development. With a mission to bridge the gap between academia and industry, Edunet Foundation partners with global organizations such as EY GDS and AICTE to provide industry-aligned training, internship programs, and career development opportunities.

Established with a focus on innovation, employability, and inclusivity, Edunet Foundation offers hands-on learning experiences in emerging domains like web development, data analytics, artificial intelligence, and cloud computing. The organization strives to enhance the digital capabilities of students by providing structured, mentor-led programs that combine theory with real-world application.

Through its Summer Internship Program, Edunet Foundation enables participants to work on live projects, learn the latest technologies, and gain practical exposure to tools and methodologies used in the IT industry. The program also emphasizes professional growth through interactive sessions on teamwork, problem-solving, and industry best practices such as version control (Git), agile methodology, and code optimization.

By collaborating with leading institutions and corporate partners, Edunet Foundation continues to play a pivotal role in nurturing future-ready tech talent, contributing to the national vision of building a skilled and digitally empowered workforce.

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Week 1 Report: Orientation & Project Selection

Week 1	DATE	DAY	NAME OF THE TOPIC/MODULE COMPLETED
	10-03-2025	Monday	Orientation Session & Internship Structure Overview
	11-03-2025	Tuesday	Master Class 1: Branding & Networking
	12-03-2025	Wednesday	Project Selection through LMS
	13-03-2025	Thursday	Mentorship Session 1: Project Planning & Strategy
	14-03-2025	Friday	Feedback Form Submission
	15-03-2025	Saturday	Preliminary Project Research & Setup

Overview

The first week focused on understanding the internship structure, selecting the project, and beginning the initial groundwork.

- 1.Attended orientation and gained clarity on the internship flow.
- 2.Learned branding and networking principles in Master Class 1
3. Selected the project via LMS.
4. Discussed project planning and milestones in the mentorship session.
5. Submitted feedback for the masterclass.
6. Began initial project research

Conclusion:

A productive first week that established clear goals and direction for the project journey.

Week 2 Report: UI/UX Design

2nd Week	DATE	DAY	NAME OF THE TOPIC/MODULE COMPLETED
	17-03-2025	Monday	Master Class 2: UI/UX Design Principles
	18-03-2025	Tuesday	Wireframe & User Flow Design
	19-03-2025	Wednesday	Mentorship Session & AMA Discussions
	20-03-2025	Thursday	Project Milestone 1 Submission
	21-03-2025	Friday	Feedback Form Submission
	22-03-2025	Saturday	Self-Paced Learning on Design Tools

Overview

Week 2 emphasized user experience and design fundamentals essential for developing an effective project interface.

- 1.** Gained UI/UX insights from Master Class 2.
- 2.** Designed wireframes and user flow diagrams.
- 3.** Participated in mentorship and AMA sessions for design review.
- 4.** Submitted Project Milestone 1.
- 5.** Completed feedback submissions.
- 6.** Explored Canva and draw.io for design practice.

Conclusion

Built a strong design foundation to guide development in upcoming weeks.

Week 3 Report: Containerization in Web Development

3rd Week	DATE	DAY	NAME OF THE TOPIC/MODULE COMPLETED
	24-03-2025	Monday	Master Class 3: Containerization in Web Development
	25-03-2025	Tuesday	Docker & Container Basics
	26-03-2025	Wednesday	Mentorship Session & AMA Support
	27-03-2025	Thursday	Frontend Integration & Milestone 2 Submission
	28-03-2025	Friday	Backend Learning – APIs & Node.js
	29-03-2025	Saturday	Self-paced Study on Deployment Pipelines

Overview

This week introduced modern deployment workflows and Docker-based development setups.

- 1.** Learned containerization concepts from Master Class 3
- 2.** Practiced Docker setup for MERN applications.
- 3.** Engaged in mentorship and AMA debugging sessions.
- 4.** Submitted Project Milestone 2
- 5.** Explored API design and backend logic.
- 6.** Studied container orchestration concepts.

Conclusion

Gained practical understanding of containerized environments and project deployment flow.

Week 4 Report: Development & Mentorship

4th Week	DATE	DAY	NAME OF THE TOPIC/MODULE COMPLETED
	31-03-2025	Monday	Mentorship Session 4: Backend Development
	01-04-2025	Tuesday	AMA Session: Database Queries
	02-04-2025	Wednesday	Development of Core Functionalities
	03-04-2025	Thursday	Project Milestone 3 Submission
	04-04-2025	Friday	Frontend-Backend Integration
	05-04-2025	Saturday	Testing & Debugging Phase

Overview

Focused on full-stack development, backend logic building, and integrating project components.

1. Designed and implemented backend APIs.
2. Connected frontend components with APIs
3. Participated in mentorship for technical debugging
4. Submitted Milestone 3.
5. Improved database schema and routing.
6. Conducted integration testing.

Conclusion

Advanced technical skills through real-time coding and debugging experience.

Week 5 Report: Mock Project Presentations

5th Week	DATE	DAY	NAME OF THE TOPIC/MODULE COMPLETED
	07-04-2025	Monday	Mock Presentation Preparation
	08-04-2025	Tuesday	Mock Presentation before SMEs
	09-04-2025	Wednesday	Review and Feedback from Mentors
	10-04-2025	Thursday	Implementation Suggested Improvements
	11-04-2025	Friday	Application Testing Responsiveness Check
	12-04-2025	Saturday	Documentation & Final Slides Preparation

Overview

This week revolved around presenting the project prototype and refining it with mentor guidance.

- 1.** Delivered mock presentation to SMEs.
- 2.** Received feedback on performance and design.
- 3.** Worked on feature optimization.
- 4.** Enhanced UI responsiveness.
- 5.** Tested final functionalities.
- 6.** Prepared the final documentation and presentation slides.

Conclusion

Improved overall quality through feedback-driven development and testing.

Week 6 Report: Final Project Presentations

6th Week	DATE	DAY	NAME OF THE TOPIC/MODULE COMPLETED
	14-04-2025	Monday	Final Presentation Preparation
	15-04-2025	Tuesday	Presentation Before EY Industry Experts
	16-04-2025	Wednesday	Feedback and Evaluation
	17-04-2025	Thursday	Final Assessment & Submission
	18-04-2025	Friday	Certificate & Internship Closure
	19-04-2025	Saturday	Reflection on Internship Learnings

Overview

The final week marked the completion of the internship journey with successful presentations and evaluations.

- 1.** Delivered final presentation to EY Experts.
- 2.** Showcased complete MERN stack project functionality.
- 3.** Received appreciation and detailed feedback.
- 4.** Submitted all final deliverables.
- 5.** Collected certificate of completion.
- 6.** Reflected on overall learning outcomes.

Conclusion

Concluded the internship with hands-on experience in full-stack development, teamwork and presentation skills.

OVERALL OUTCOMES

Project Title: Food Delivery Web Application

Duration: March 10, 2025 – April 18, 2025

Technology Stack: MERN (MongoDB, Express.js, React.js, Node.js), Docker

Skills Learned:

- UI/UX design principles (wireframing, color theory, layout design)
- Frontend development using React.js
- Backend development with Node.js and Express.js
- Database management using MongoDB
- API design, integration, and testing
- Containerization and deployment using Docker
- Version control using Git and GitHub
- Responsive web design and testing
- Presentation and documentation skills

Experience Gained:

- Understood real-world web application development cycles.
- Improved collaboration and time management through mentorship.
- Learned the process of converting ideas into fully functional applications.
- Gained exposure to industry workflows, feedback systems, and presentation skills.
- Enhanced problem-solving and debugging capabilities.

Outcome Summary:

Successfully developed and deployed a Food Delivery App that allows users to browse restaurants, add food items to a cart, and place orders. The app incorporated secure login, database connectivity, and responsive UI. The internship provided comprehensive exposure to full-stack web development and professional communication.

