

# Social Media Platform – MERN Stack Project

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# Abstract

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- Developed a responsive social media app using MERN Stack.
- Key features: authentication, post creation, image uploads, profile management.
- Technologies: MongoDB, Express.js, React.js, Node.js.

# Introduction

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- Full-stack application based on 3-layer architecture.
- Clean UI, responsive across devices.
- CRUD operations for users and posts.
- Dark and Light mode support.



# Problem Statement & Objectives

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- Problem: Build a secure, scalable web app using MERN.
- Objectives:
  - Practical implementation of modern web dev
  - Create maintainable, testable applications

# MERN Stack Overview

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- MongoDB: NoSQL DB for storing user and post data
- Express.js: Back-end framework
- React.js: Front-end library
- Node.js: JavaScript runtime for server-side

# System Architecture

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- 3-Tier MERN architecture:
- • Presentation Layer (React)
- • Application Logic (Node + Express)
- • Data Layer (MongoDB)



# Website Features

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- • User authentication & profile photo upload
- • Post creation with image
- • Like/Dislike, Add/Remove friends
- • Responsive UI with dark/light mode

# Frontend Tools & Libraries

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- React.js
- Redux Toolkit: State management
- Formik & Yup: Form validation
- React Dropzone: Image upload



# Backend Tools

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- Node.js + Express.js
- JWT: Authentication
- Mongoose: MongoDB object modeling
- Multer: File handling

# MongoDB & Schemas

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- Two main schemas:
  - User: name, email, password, etc.
  - Post: title, description, likes, createdAt
- MongoDB Atlas used for cloud DB

# APIs & Controllers

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- APIs connect frontend & backend
- Post Controller: CRUD operations
- User Controller: User info, friend handling
- Auth Controller: Login, register with JWT



# UI Screenshots

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- • Registration & Login Pages
- • Home Page in Dark & Light mode
- • Post creation and user feed

# Mobile View & Responsiveness

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- Fully responsive design
- Clean layout on mobile (iPhone view shown)

# Future Work

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- • Real-time chat
- • Post comments and video support
- • Recommendation system
- • NLP for hashtag grouping
- • Story feature



# Conclusion

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- Full-stack MERN application built successfully
- Learned principles of scalable web development
- Clean UI, secure backend, responsive design

# Thank You