

- **GitHub:** <https://github.com/madhavms>
- **LinkedIn:** [www.linkedin.com/in/madhavmanohars](https://www.linkedin.com/in/madhavmanohars)
- **Portfolio:** <https://micromesh.me>
- **Medium:** <https://medium.com/@madhavmanohar.s>

## Summary

Senior Software Engineer with over 4 years of professional experience in UI Engineering. Expertise in architecture and development of modern web-based enterprise UI solutions, UI component libraries, and micro frontends. Hands-on experience in measuring and optimising performance of web applications.

## Education

- **Master's degree in Computing**  
*University of East London (Jan 2022 – May 2023)*
- **Bachelor's degree in Electronics and Communication**  
*University of Kerala (Aug 2014 – Jul 2018)*

## Skills

- **Languages & Frameworks:** JavaScript, TypeScript, React, Redux, RXJS, Node.js, Python, FastAPI
- **Database:** MongoDB, MySQL
- **Styling Solutions:** CSS3, SASS, SCSS, JSS libraries, Tailwind CSS
- **Debugging and performance:** chrome developer tools, Lighthouse audit, RAIL performance metrics
- **Testing Framework and libraries:** Jest, React Test Library, Playwright test automation
- **Test strategies:** Familiar TDD and BDD testing
- **App Bundlers:** Webpack 5, Rollup, Vite
- **Cloud Environment:** Azure, GitHub Actions CI/CD
- **Containerization and Orchestration:** Docker, Kubernetes

## Experience

### 1. Systems Engineer at Tata Consultancy Services Ltd (Jan 2019 - Present)

**Project:** Micro Widget

**Technologies:** HTML5, JS, web components, Typescript, Node, React, JSS, Webpack 5, Federated Module system, Jest

- Architected and implemented micro frontend platform for firm wide digital offering
- Runtime loading and integration of micro frontend widgets
- Created CLI for bundling widgets into micro frontend compatible format
- Client bus for interoperability between widgets
- Mechanism to persist and save widget state
- The platform facilitated reduced deployment time and manageable codebases
- Improved the website load time by 12-15% using web optimisation techniques

**Project:** Single Dealer Platform

**Technologies:** HTML5, JS, Typescript, Node, React, Redux, Redux-observables, RxJS, Webpack, Solace messaging, Jest

- UI Core team member delivering application framework, messaging and infrastructure, persistence mechanism, logging infrastructure
- Production deployment and live production support on technical level

## 2. Software Engineer at InApp Information Technologies (Jul 2018 - Dec 2018)

- Developed a full stack on a Python based knowledge graph application for internal users
- Performed performance analysis for the application
- Improved application performance through defect fixes and enhancements
- Technology: Django, Python, SQLite, JavaScript, HTML5, Java, JSP

## Personal Projects

### 1) [MicroMesh Micro-Frontend Platform:](#)

- [Micro-frontend Platform](#) for runtime integration of micro-frontend widgets or applications
- Global Discovery Menu and Enhanced Workspace with Tabbed Navigation
- [Widget showcase application](#) for exploring published micro-frontend widgets
- [Onboarding application](#) for onboarding new micro-frontend widgets
- Technologies: React, Webpack 5, Module Federation, FastAPI, WebSocket
- Deployment: GitHub Actions CI/CD
- Achieved style isolation of remote widgets through shadow DOM injection
- Established Client Message bus for widget interoperability
- Incorporated FastAPI for backend services and real-time streaming of stock prices

### 2) [Real-Time Twitter Sentiment Analysis:](#)

- Developed real-time ETL pipeline for processing tweets and predicting sentiment value
- Technologies: Python, Apache Kafka, Spark structured streaming, and MongoDB Cloud
- Implemented sentiment analysis on tweets with an 82% accuracy rate
- Visualised the sentiment analysis results using MongoDB Atlas Charts

## Achievements & Awards

1. [Service and Commitment Award](#) (Tata Consultancy Services Ltd): Issued by TCS for 3 years of dedicated service to the organisation across roles
2. [On the spot Award](#) (Tata Consultancy Services Ltd): For helping the team achieve the target of 0 backlog issues for the quarter
3. [Applause award](#) (Tata Consultancy Services Ltd): For implementing features that were business critical and earning client appreciation for the same

## Publications

1. [MicroMesh Micro frontend Platform](#)
2. [Micro frontend, Dynamic module loading and Orchestration](#)
3. [Micro frontend implementation with style isolation](#)
4. [Optimize Renders in React](#)
5. [Setting up Tailwind CSS with ReactJS](#)
6. [Automating Your CI/CD Pipeline with GitHub Actions](#)

## Licenses and Certifications

1. [AWS Academy Graduate - AWS Academy Cloud Foundations](#) (Issued Jan 2023)