Project Report

IEEE COMPUTER SOCIETY

(MAY 2025-JULY 2025)

INTRODUCTION: This report outlines the projects undertaken and completed for the IEEE Computer Society during the two-month summer break. The initiative aimed to strengthen practical skills across key domains of modern computing, including web development and artificial intelligence The web development track focused on learning and using HTML, CSS, JavaScript, and ReactJS. In parallel, the AI-ML track introduced foundational concepts through hands-on work with NumPy and data-driven logic. To complement both tracks, Figma was used for prototyping and interface design, ensuring a cohesive user experience.

COURSEWORK

Web Development

- Web Technologies: HTML, CSS, JavaScript
- Responsive Design Principles
- ReactJS Fundamentals
- DOM Manipulation & Event Handling
- Code Editing with VS Code

AI-ML

- Python
- NumPy

Project 1: Portfolio Website Using HTML and CSS

Objective:
To design and develop a personal portfolio website that showcases skills, projects, and achievements using core web technologies—HTML and CSS. The goal was to create a visually appealing, responsive, and user-friendly interface that reflects professional identity.

Tools & Technologies Used:

- **HTML**: For structuring the content and layout
- **CSS**: For styling, animations, and responsive design
- **VS Code**: As the primary development environment
- **GitHub**: For version control and deployment

Key CSS Features Implemented:

- **Flexbox and Grid Layouts**: Used to create responsive sections and align content dynamically across devices.
- **Transitions and Animations**: Smooth hover effects on buttons, cards, and navigation links to enhance interactivity.
- **Box Shadows and Gradients**: Added depth and modern aesthetics to cards and headers.
- **Sticky Navigation Bar**: Improved user experience by keeping navigation accessible during scrolling.

Website Sections Included:

- **Home**: A welcoming introduction with a hero image and tagline.
- **About Me**: A brief overview of background, interests, and goals.
- **Skills**: Visual representation of technical proficiencies using progress bars or icons.
- **Projects**: Showcase of completed works with links and descriptions.
- **Contact**: A form for visitors to reach out, styled with input animations and validation.

Project 2: UI Design of a Mobile Banking App Using Figma

Objective:
To conceptualize and design a modern, intuitive mobile banking application interface using Figma. The project aimed to simulate a real-world fintech product, focusing on user experience (UX), visual hierarchy, and accessibility. The design emphasized clarity, trustworthiness, and ease of navigation.

Tools & Technologies Used:

- **Figma**: For wireframing, prototyping, and collaborative design
- **Google Fonts**: For clean, readable typography
- **Material Design Guidelines**: As a reference for UI consistency and usability

Design Features & Components:

- **Splash Screen**: A minimalist welcome screen with brand logo and animation concept
- **Login & Signup Pages**: Designed with secure input fields, password visibility toggles, and error prompts
- **Dashboard**: Central hub showing account balance, recent transactions, and quick
- **Navigation Bar**: Bottom tab navigation with icons for Home, Transactions, Cards, and Profile
- **Transaction History**: Scrollable list with filters, icons, and color-coded categories (e.g., Food, Travel, Bills)
- **Profile & Settings**: User profile page with editable fields, notification settings, and logout option.

Design Principles Applied:

- **Consistency**: Maintained uniform spacing, typography, and colour palette throughout the app
- **Accessibility**: Used high-contrast colours and legible fonts for better readability
- **User-Centered Design**: Prioritized ease of use with intuitive layouts and minimal cognitive load

  Developed a strong understanding of mobile-first design principles and learned to create reusable components and maintain design systems.

Project 3: To-Do Website Using HTML, CSS, and JavaScript

Objective:

To build a functional and interactive To-Do List web application that allows users to add, delete, and manage daily tasks. The project focused on integrating dynamic behaviour using JavaScript while maintaining a clean and responsive layout with HTML and CSS.

Tools & Technologies Used:

- **HTML**: Structured the layout and content of the application
- **CSS**: Styled the interface with modern design elements
- **JavaScript:** Added interactivity and logic for task management

Core Features Implemented:

- **Add Task**: Users can input a task and click a button to add it to the list
- **Delete Task**: Each task includes a delete icon/button to remove it from the list
- **Mark as Completed**: Tasks can be marked as done with a visual indicator (e.g., strikethrough or checkbox)
- **Input Validation**: Prevents empty tasks from being added
- **Local Storage Integration** *(if implemented)*: Saves tasks even after the browser is closed

Design Highlights:

- **Minimalist UI**: Clean layout with soft colours and rounded containers
- **Hover Effects**: Buttons and task items respond visually to user interaction
- **Animations**: Smooth transitions for adding/removing tasks
- **Typography**: Used readable fonts and spacing for clarity

Element	Description
Colour Palette	IEEE Blue (#00629B), White, and Gray tones for contrast and readability
Typography	IEEE-approved fonts like Arial, Helvetica, or Roboto for clarity
Imagery	High-resolution, relevant images with alt text for accessibility
Icons	Simple, universally recognizable icons for actions and navigation

Strengthened understanding of DOM manipulation and event handling in JavaScript, learned to structure code using functions and modular logic also gained experience in creating user-friendly interfaces with real-time feedback.

Project 4:UI Design of IEEE Website

Objective:

To design a user-friendly, accessible, and visually consistent website for an IEEE VSSUT SB that reflects IEEE's global brand identity while serving local or specialized content needs.

Layout Structure

- **Header**: IEEE logo, navigation bar, search bar
- **Hero Section**: Mission statement or event highlight
- **Content Blocks**: Modular sections for news, events, publications
- **Footer**: Contact info, social media links, IEEE policies

Conclusion

Over the course of the two-month summer break, the IEEE Computer Society successfully fostered practical skill development across key domains of modern computing. Through hands-on learning in web development, AI/ML, and UI/UX design, participants not only strengthened their technical foundations but also cultivated a mindset of creativity, problem-solving, and user-centered thinking.

This initiative laid the groundwork for future interdisciplinary collaborations, hackathons, and research-driven projects within the society. By embracing both technical rigor and design empathy, the IEEE VSSUT SB continues to empower its members to lead innovation in computing and contribute meaningfully to the broader tech community.