

Kushal Kumar Nerella

Front End Engineer

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SUMMARY

Experienced in building scalable, high-performance web applications with a strong focus on front-end architecture, performance optimization, and engineering best practices. Over 6 years of hands-on work with modern frameworks such as React, Angular, and TypeScript, while driving accessibility (WCAG 2.2) and design system adoption. Passionate about A/B testing, micro frontends, and component-driven development, with a proven track record of owning critical user-facing features end-to-end, collaborating across product and design teams, and delivering robust, accessible, and testable solutions in production environments.

TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, Python, C#

Frameworks/Libraries: React, Angular, Node.js, .NET Core, Django

Databases: MySQL, MongoDB

Backend Technologies: RESTful API Development, Microservices Architecture

Containerization/Orchestration: Docker, Kubernetes

Version Control and CI/CD: Git, Jenkins, Azure DevOps, GitHub Actions

Testing Frameworks: Jest, Cypress

UX Design: Figma, Sketch, User Flow, Wireframing, Prototyping, Usability Testing

PROFESSIONAL EXPERIENCE

Amazon, Austin, TX

August 2024 – Present

Software Development Engineer II

- Resolved 21 European Accessibility Act (EAA) compliance tickets for Amazon's Homepage, impacting high-traffic components like carousels, image shovellers, and content cards. Applied WAI-ARIA patterns, screen reader validation, and focus management techniques to refactor reusable components and ensure accessibility at scale for millions of users.
- Engineered mobile-first enhancements for the Window Display component using micro-frontend architecture, delivering orientation-aware layout shifts and responsive card behavior to improve cross-device user experience.
- Led the end-to-end experimentation lifecycle using Weblab A/B testing, from managing code change submissions to analyzing experiment outcomes and driving progressive rollouts based on performance insights.
- Spearheaded the integration of Melody, Amazon's accessibility-first image authoring tool, by coordinating with engineering, product, and design teams to align on HTML-based image standards, ensure accessibility compliance, and deliver inclusive Homepage content at scale.

Environment: Cards, Kata UI, JavaScript, CSS3, Micro-frontend Architecture, A/B Testing, Accessibility Testing Tools, Agile, W3C Standards, EAA

New York City Public Schools, Remote

February 2023 – July 2024

Full Stack Developer

- Led the development and migration of invoicing services for various Education service partners, involving the transition of legacy databases to new architectures, optimizing data accessibility and system responsiveness.
- Designed and implemented new API endpoints and UI components for the revamped invoicing system, enhancing vendor interaction and operational efficiency.
- Created and optimized SQL stored procedures in SQLite, ensuring robust data manipulation and integration into the .NET Core backend, facilitating seamless data operations.

Environment: Angular, .NET Core, SQLite, HTML5, CSS3, TypeScript, Bootstrap, Git, REST API

Front End Engineer

- Led the development of an advanced seating chart UI using React DnD, improving seating management efficiency by 30% with dynamic drag-and-drop functionality.
- Enhanced DOE software accessibility, ensuring 100% W3C WCAG compliance and increasing user engagement by 25%.
- Innovated with React.js and Typescript, creating reusable components and leveraging Redux for state management to enhance application performance and user experience.
- Optimized SDLC with Agile, accelerating project delivery by 20% and fostering cross-team collaboration.

Environment: HTML5, CSS3, JavaScript, Typescript, ReactJS, Bootstrap, Kendo React, Redux, JSON, React Router, REST API, Web pack, SASS, Nodejs, jest, NPM, GIT

Evolutyz IT, Vishakhapatnam

June 2020 – January 2021

Front End Engineer

- Led the development of a feature-rich timesheet management application, enhancing productivity and user experience for over 500 employees.
- Implemented advanced data visualization tools using D3.js and React, providing actionable insights and improving decision-making processes for management.
- Optimized application performance, achieving a 50% reduction in load times and significantly enhancing the user experience on both web and mobile platforms.

Environment: HTML5, CSS3, JavaScript, ReactJS, Redux-Saga, React Native, React Router, Bootstrap, REST API, Webpack, SEO, SASS, NodeJS, jest, NPM, GIT, LIRA

TATA Consultancy Services, Hyderabad

November 2018 – August 2020

Full Stack Developer

- Pioneered the use of Angular 7 in developing SPA applications for the State Bank of India, setting a new standard for customer-facing banking solutions.
- Facilitated a DevOps culture shift, integrating CI/CD pipelines that reduced deployment cycles by 40% and fostered a more agile development environment.
- Championed front-end security practices, implementing OAuth and JWT for secure API integrations, significantly reducing security vulnerabilities.

Environment: HTML5, LESS, JavaScript, AngularJS, Angular, D3, ES6, Grunt, XML, J2EE, JSP, NodeJS, JBoss, IntelliJ, Notepad++, Jasmine, Sublime text, Oracle, MySQL

INTERNSHIPS & PART-TIME EXPERIENCE

Purdue University, West Lafayette

January 2021 – December 2022

UX Developer

- Led a university-wide initiative to optimize web content, leveraging strong analytical and problem-solving skills to achieve a 25% increase in web traffic.
- Conducted comprehensive user research and testing, resulting in a 30% improvement in user satisfaction scores for the university's main website.
- Collaborated with cross-functional teams to integrate user-centered design principles into new web projects, ensuring alignment with Purdue's branding and user needs.

Environment: HTML5, CSS3, JavaScript, PHP, SASS, Bootstrap, Responsive Design, JSON, REST API, SEO optimizations, Node.js, Jest, NPM, GIT, Agile methodology with JIRA

C&D Media Labs, Vishakhapatnam

May 2017 – November 2018

Full Stack Developer Intern

- Orchestrated the redesign of client websites, leading to a 40% increase in user engagement and a 20% boost in conversion rates.
- Automated routine tasks by developing custom JavaScript tools, saving the team approximately 200 hours of manual work per year.
- Enhanced website accessibility, ensuring full compliance with ADA standards and improving the user experience for people with disabilities.

Environment: HTML5, LESS, JavaScript, AngularJS, D3, ES6, Grunt, XML, J2EE, JSP, NodeJS, JBoss, IntelliJ, Notepad++, Jasmine, Sublime text, Oracle, MySQL

EDUCATION

Purdue University, West Lafayette, Indiana

MS in User Experience Design

GITAM University, Vishakhapatnam, India

BS in Computer Science

CERTIFICATIONS

Introduction to Web Accessibility, edX (W3C), Jan 2025. Credential ID: 57fc33d995f94f6cae7ea34a5a752cc3.

Foundations of User Experience (UX) Design, Coursera, Jul 2021. Credential ID: 64PGMM6J8DBY.

Human-Centered Design: an Introduction, Coursera, Jan 2020. Credential ID: 8A2W3LZ7PAED.

Visual Elements of User Interface Design, Coursera, Jan 2020. Credential ID: LMA52PPBJHAE.

PUBLICATIONS

Understanding Pitfalls and Opportunities of Applying Heuristic Evaluation Methods to VR Training Systems: An Empirical Study, *International Journal of Human-Computer Interaction*, December 2022.

IoT-based Temperature and Humidity Monitoring System using Raspberry Pi, *International Journal for Research in Applied Science and Engineering Technology (IJRASET)*, Vol. 6, Issue 288-291, 2018. ISSN: 2321-9653.