

# SURAJ MISHRA

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## Education

<b>Northeastern University, Master's degree in Computer Science</b> Relevant Courses: Web development, Program Design Paradigm, Mobile Application Development, NLP	Boston, Massachusetts Sep 2023 - Dec 2025
<b>SRM Institute of Science and Technology, Bachelor's degree in Computer Science</b> Relevant Courses: Data structures and algorithms, Artificial Intelligence, Object Oriented Programming, DBMS	India Jul 2019 - Jun 2023

## Skills

**Programming Languages:** Java, Python, JavaScript, TypeScript, C++, SQL  
**Frontend:** React, HTML/CSS, Redux, Next.js, Material UI, Responsive Design, jQuery  
**Backend:** Node.js, Express.js, RESTful APIs, GraphQL, JSON  
**Databases:** MySQL, PostgreSQL, MongoDB, Redis, Database Design  
**Tools & Technologies:** Git, AWS, Visual Studio Code, Eclipse, JIRA, Postman  
**Core Competencies:** Full-Stack Development, Problem Solving, Debugging, Testing, Code Review, Agile/Scrum

## Work Experience

<b>IpsierLab LLC</b> <b>Software Engineer Intern</b> <ul style="list-style-type: none"><li>Revamped quiz creation platform by implementing customizable templates and multimedia support using <b>React</b> and modern UI principles.</li><li>Accelerated API response times by <b>30%</b> through backend optimizations using <b>Java</b> and <b>PostgreSQL</b> for efficient data retrieval.</li><li>Implemented <b>real-time analytics dashboard</b> with performance tracking, leaderboard features, and data visualization capabilities.</li><li>Restructured database schema and query optimization, <b>reducing execution time by 25%</b> while leveraging full-stack development skills.</li><li>Enhanced frontend accessibility and <b>cross-platform compatibility</b> through collaboration with UI/UX teams.</li></ul>	Boston, MA, USA Jan 2025 - Jun 2025
<b>Northeastern University</b> <b>Graduate Teaching Assistant, Web Development</b> <ul style="list-style-type: none"><li>Facilitated student learning through structured tutorials on <b>Full-Stack Technologies</b> (React, Node.js, Express, MongoDB).</li><li>Mentored students with personalized assistance and <b>comprehensive code reviews</b> throughout the semester.</li><li>Streamlined course operations and communication channels while applying <b>Agile methodologies</b> to manage student workflows.</li></ul>	Boston, MA, USA Jun 2024 - Dec 2024
<b>Internship Studio</b> <b>Web-development Intern</b> <ul style="list-style-type: none"><li>Boosted website performance through <b>responsive design</b> implementation using <b>JavaScript</b> and CSS across multiple platforms</li><li>Optimized server performance for <b>e-commerce platform</b>, improving response times during peak traffic periods</li><li>Integrated <b>MySQL database</b> for product catalog management with secure authentication and transaction processing.</li></ul>	Remote, IN Jan 2022 - Mar 2022

## Projects

<b>Image Processing &amp; Enhancement Application</b> <ul style="list-style-type: none"><li>Built a <b>comprehensive image processing application</b> in Java that allows users to apply filters and transformations to images.</li><li>Implemented <b>advanced features</b> including blur, sharpen, sepia, grayscale, and color correction algorithms.</li><li>Applied <b>design patterns</b> (Adapter, Facade, Builder, Command, Strategy) to improve code maintainability and extensibility.</li><li>Engineered <b>multi-threaded processing system</b> for handling concurrent image transformations across multiple file formats.</li><li>Optimized <b>kernel convolution algorithms</b> from <math>O(n^2m^2)</math> to <math>O(n^2m)</math> using separable filters, achieving 3x faster processing.</li><li>Implemented <b>undo/redo functionality</b> with command history stack supporting up to 50 operations for non-destructive editing.</li></ul>	Sept 2024 - Dec 2024
<b>Kanbas React Web Application</b> <ul style="list-style-type: none"><li>Created a <b>learning management system</b> similar to Canvas where students can access courses, assignments, and grades.</li><li>Built responsive platform using <b>React</b> with component-based architecture and modern state management.</li><li>Reduced build time by <b>40%</b> through modular design and efficient code splitting techniques.</li><li>Designed <b>RESTful backend APIs</b> with <b>Node.js</b> and Express for seamless data flow and user authentication.</li></ul>	Jan 2024 - Apr 2024
<b>ECOM-VISION Admin Dashboard</b> <ul style="list-style-type: none"><li>Developed an <b>administrative dashboard</b> for e-commerce analytics featuring sales tracking, inventory management, and user insights.</li><li>Created interactive <b>data visualization</b> components using Material UI and Nivo Charts for business analytics.</li><li>Optimized application state management using <b>Redux Toolkit</b> for improved performance and user experience.</li><li>Improved data processing efficiency by <b>30%</b> with <b>Node.js</b> and <b>MongoDB</b> aggregation pipelines.</li></ul>	Jan 2024 - Mar 2024