Vinay Shetye

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Education

University of Massachusetts. Dartmouth, Massachusetts Sept. 2023 – May. 2025
Master of Science in Computer Science; GPA: 3.60/4.00

Shree Rayeshwar Institute Of Engineering & IT. GA, India Aug. 2015 – May. 2019
Bachelor of Engineering in Computer Engineering; GPAA: 3.70/4.00

Coursework: Data Structures & Algorithms, Object-Oriented Programming & Design, Object Oriented Software Engineering, Web Technologies, Operating Systems, Database Management, Database Design, Formal Methods of Software Engineering, Algorithms & Complexity, Paradigmatic Software Development, Artificial Intelligence, Advanced Machine Learning, Advanced Computer Systems

Technical Skills

Languages: Java, Python, C/C++, JavaScript (ES6+), TypeScript, HTML5, CSS3, PHP, SQL (PostgreSQL)
Frameworks: React, Next.js, Node.js, Express, Django, Spring Boot, Redux, Tailwind CSS, Material-UI
Databases: MongoDB, PostgreSQL, Oracle DB, MySQL
Developer Tools: Git, Docker, AWS, Google Cloud Platform, VS Code, IntelliJ IDEA, Postman, Eclipse
Libraries: NumPy, Pandas, D3.js, Lodash, Axios

WORK Experience

Teaching Assistant & Grader - University of Massachusetts. Dartmouth, Massachusetts Sept. 2024 – Dec. 2024
(Part Time)

- Assisted Dr. John Rahme in designing and refining course materials and assignments for CIS461- Formal Methods of Software Engineering, ensuring alignment with formal methods principles.
- Held regular office hours and one-on-one sessions to support and clarify complex concepts for over 50 students.
- Evaluated and graded student assignments promptly, providing detailed feedback to enhance learning and comprehension.
- Collaborated with the professor to continually improve course content and assessment strategies, contributing to a more engaging and effective learning experience.

Software Engineer - WebMinds IT Solution. Pune, MH, India Feb. 2021 – Aug. 2023
(Full Time)

- Developed and maintained responsive web applications using the MERN stack (MongoDB, Express, React, Node.js) with PostgreSQL, driving a 30% improvement in system performance.
- Transformed an outdated legacy platform into a modern, modular microservices architecture while working closely with UI/UX designers in Figma, cutting page load times by 37% and enhancing system responsiveness by 25%.
- Built a Progressive Web App (PWA) with React and service workers to provide offline access and real-time data via RESTful APIs, increasing user engagement by 40%.
- Optimized front-end delivery by streamlining asset bundling with Webpack and fine-tuning code using Chrome DevTools, resulting in a 45% reduction in page load times.
- Collaborated with clients and dev teams to continuously refine and tailor application features based on evolving business requirements, resulting in a 35% increase in client satisfaction.

System Engineer - Tata Consultancy Services Ltd. Pune, MH, India Jan. 2020 – Jan. 2021
(Full Time)

- Developed and maintained enterprise applications using agile (Scrum) practices, ensuring on-time delivery and high performance.
- Engineered scalable systems with full-stack techs (Java, Spring MVC, Hibernate), improving system performance by 25%.
- Implemented comprehensive unit and integration testing with tools like JUnit, streamlining debugging and deployment for enhanced software quality.
- Monitored and optimized server environments through strategic upgrades, proactive patching, and advanced performance tuning, achieving a 40% reduction in system downtime while maintaining critical business operations.
- Coordinated weekend IT maintenance tasks including SAN maintenance, server patching, and planned downtime to ensure robust and reliable infrastructure.

Frontend Developer - Webware.ai. Ribandar, GA, India Sep. 2019 – Nov. 2019
(Full Time)

- Developed responsive, high-performance web interfaces using HTML5, CSS3/SASS, and modern frameworks such as Tailwind CSS, Semantic UI, and Material-UI, resulting in optimized load times and enhanced user experience.

- Utilized Chrome DevTools and Spectacle for targeted debugging and performance tuning, achieving a 25% improvement in UI rendering speed.
- Leveraged Webpack for efficient module bundling and code optimization, reducing asset load times by up to 30% and boosting overall application performance.
- Implemented optimized web scraping scripts for code backups, reducing recovery time by 35% and improving version tracking accuracy by 28%.

Software Engineering Intern - Infosys Limited. Shiroda, GA, India Jan. 2018 – Jun. 2018
(Part Time)

- Designed and developed a Python-based word scramble application for the Infosys Campus Connect Internship Project.
- Built an interactive GUI using Tkinter, allowing users to load and scramble words from various text file formats.
- Optimized the scrambling algorithm by leveraging Python's built-in features such as loops, list comprehensions, and the random module, achieving a 20% performance improvement.
- Enhanced the application's scrambling algorithm by optimizing code and refactoring key modules, resulting in a 25% improvement in processing speed and reduced CPU usage.

Projects Experience

Mass Shootings in USA 2014 - 2022 - Next.js, D3.js, Plotly, Python, Google Maps API, Tailwind CSS   [Live Demo](#)
- Developed a geospatial analytics app visualizing U.S. mass shooting data (2014-2022) with dynamic filtering and temporal analysis, boosting engagement by 35%.
- Designed interactive visualizations (choropleth maps, network graphs, heat maps) with D3.js and Plotly, enhancing data insights by 45%.
- Built a Python pipeline for geocoding and ETL, reducing data prep time by 60% and achieving 99.8% accuracy.

Flight Delay Insurance System - Next.js, TypeScript, Shadcn/UI, Prisma, PostgreSQL, Amadeus API   [Live Demo](#)
- Developed a flight booking platform with real-time status tracking and integrated travel insurance, reducing abandonment by 40%.
- Implemented dynamic multi-city search and secure authentication with NextAuth.js, while integrating Stripe for multi-currency payments to boost transaction reliability by 25%.
- Streamlined backend operations using Prisma and PostgreSQL for efficient booking management and e-ticket generation.

Google Keep Clone - React.js, Material UI, React Hooks, Masonry Grid, CSS3   [Live Demo](#)
- Developed a responsive note-taking app replicating Google Keep, enabling create/edit/delete functionality with auto-resizing text areas.
- Implemented a Masonry Grid layout for adaptive note organization and persistent storage via Local Storage for seamless data access.
- Enhanced UI with Material UI components, tooltips, and smooth animations, ensuring a modular and scalable architecture.

Word Scramble Game - React, TypeScript, Framer Motion, PurgoMalum API, Perspective API   [Live Demo](#)
- Designed and developed an interactive Word Scramble Game with React, Vite, Tailwind CSS, and TypeScript featuring classic/custom modes, file upload, local leaderboard, and persistent state.
- Integrated word validation and content moderation using Dictionary, PurgoMalum, and Perspective APIs for safe gameplay.
- Enhanced user experience with responsive design, engaging animations via Framer Motion, and immersive audio effects using Howler.js.

Extra-Curricular Activities

- Secured second place in the Software Projecto Competition during Tech Twister (Tech event), S.R.I.E.I.T, Goa, in 2019.
- Participated in the University Of Massachusetts Dartmouth College of Engineering Hackathon on April 13, 2024.
- Volunteered for the 9/11 Day of Service on September 8, 2024.
- Participated in the 'Be the Solution to Pollution' Fair Haven Beach Cleanup on September 28, 2024.
- Engaged in community service at 'Tuesdays At Farm' on September 24, 2024.
- Represented the State of Goa at the 55th and 57th National School Games Chess Boys & Girls Championships, held in Maharashtra and Madhya Pradesh, India, in 2010 and 2011.
- Secured second place in a University Level Chess Tournament, Goa, in April 2016.
- Received the Bronze Medal at the Inter-Collegiate Chess Tournament at Goa University in September 2016.