Ereena Bagga, Software Engineer

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Skills

Programming Languages	C++, .NET, Python, Java, C# (Object-oriented Programming), JavaScript, TypeScript
Web Technologies	HTML, CSS, JavaScript, Node.js, Vue.js, Express.js, ReactJS, AngularJS, MERN stack
Database	MySQL, PostgreSQL, MongoDB
DevOps	Docker, Microsoft Azure
Cybersecurity	Ethical Hacking, Cyber Security Management
IDEs	VS Code, Jupyter Notebook, PyCharm, IntelliJ, Eclipse

Experience

JDR Software, Melbourne, Australia **Junior Automation Test Engineer** **04/2023 - Present**

- Developed and executed automated test cases for new product features, using **Java and JavaScript**, significantly reducing post-release defects, and improving product stability.
- Streamlined automation workflows, increasing test coverage by 40% and reducing manual testing efforts by 30%, contributing to more efficient development cycles and faster delivery times.
- **Earned a transition from an intern to a valued casual employee** by demonstrating exceptional performance, notably by implementing and optimizing advanced automation frameworks, such as Selenium WebDriver and Appium, significantly improving code reusability, maintainability, and overall software quality across multiple projects.
- Mentored junior interns on best practices in automation development, facilitated code reviews, and ensured that all automation scripts and test cases were properly documented, versioned, and easily retrievable, improving the automated test cycle efficiency by 30% across the team and fostering a collaborative engineering environment.
- Integrated **Behavior-Driven Development (BDD)** frameworks such as **Cucumber**, improving collaboration between testers, developers, and product owners, resulting in more accurate and user-focused test scenarios.
- Collaborate closely with cross-functional teams, helping to identify and prioritize critical test scenarios, and ensuring comprehensive validation of key software functionalities.

SkillVertex, Chennai, India **Software Development Engineer Intern** **03/2022 – 06/2022**

- Engineered a web application that enhanced the company's online education platform, implemented responsive landing pages, secure authentication pages, and dynamic dashboards using **React.js** for the frontend, **Node.js with Express** for the backend, and **Postgres** as the database, contributing to a 10% increase in course enrolments and supporting over 1,000 active users within the first three months of launch.
- Optimized the web application's performance by implementing **code refactoring and lazy loading techniques**, reducing page load times by 25% and improving overall user experience.
- Integrated third-party APIs to enhance the platform's functionality, such as enabling secure payment processing and real-time data synchronization, improving the user journey and increasing platform reliability.
- Led the testing and quality assurance efforts, writing and executing unit and integration tests using Jest, which resulted in a 15% reduction in post-deployment bugs and improved software stability.
- Documented technical processes and project workflows, creating comprehensive guides that enhanced team onboarding and ensured knowledge transfer, reducing the onboarding time for new team members.

Education

Deakin University, Melbourne, Australia **Bachelor of Software Engineering (Honours)** **10/2020 – 06/2024**

- Minor: Cyber Security with courses such as Ethical Hacking and Cyber Security Management
- Fourth-Year Thesis: "An Intelligent Solution for Occupational Injury Risk Mitigation"
- Achieved: Distinction Average (**WAM – 72.0**)
- Awarded with Deakin Merit Scholarship in 2022
- SEBE Peer Support Mentor, Friday Friends Leader, Member of Deakin University Student Association

Projects

Deep Learning Web Application: Real-Time Posture Correction System [Link] **01/2024 – Present**
Tech Stack – Python, OpenCV, Mediapipe, Tensorflow, Keras, Flask

- Engineered a web application incorporating deep learning and computer vision algorithms using Python to accurately track and analyze employees' postures during manual lifting activities with a 93% accuracy rate, enabling real-time monitoring, feedback, and prompt corrective measures for safer work practices.

- Implemented the application using Flask for the backend with a responsive user interface resulting in a 20% reduction in workplace injuries associated with manual lifting activities, demonstrating a tangible improvement in employee safety.

Generative AI-Driven Chatbot Application: The Medi [Link]   03/2023 – 07/2023
Tech Stack – Google Dialogflow, Firebase

- Led the university capstone program for Gopher Industries and spearheaded the development of a Gen AI chatbot called 'The Medi', designed to streamline patient interactions, including appointment booking and online diagnosis.
- Leveraged Google Dialogflow and Firebase to build and integrate sophisticated natural language processing features, enabling the chatbot to accurately interpret and respond to user queries, achieving a 25% increase in accurate user query comprehension.

Full Stack Development: A Smart Food Granary Management System [Link] 09/2022 – 02/2023
Tech Stack – HTML5, CSS3, Bootstrap, MongoDB, Node.js, Express.js, ReactJS, AngularJS

- Created a responsive, RFID-enabled food granary management web application using the MEAN stack (MongoDB, Express.js, AngularJS, Node.js), facilitating remote monitoring and management of granaries. This system reduced food waste by 25% and optimized operational costs.
- Integrated hardware components into the application to develop a robust embedded system, achieving a 30% reduction in system response time and improving overall efficiency.

Certifications And Awards

- **Microsoft AI-900 Azure AI Fundamentals Certified**
- **Google Cloud Generative AI Certified**
- **TCS Cybersecurity Analyst Micro-Internship Participant**
- **IBM Generative AI Micro-Internship Participant**
- **Deloitte Australia Technology Job Simulation Certified**
- **Winner of Innofes 2023, Best Product Winner – Food Remedy Co, 2023**
- **Winner of EW Project Challenge, Creative Project Prize Winner Category, 2022**
- **Co-developed a patent for a self-powered treadmill (Patent Granted), 2022**

Mentorship And Volunteer Experience

Microsoft Learn, Australia   **Student Ambassador**   **02/2024 – Present**

- Represented Microsoft on campus, orchestrating 10+ events and workshops, engaging 500+ students, and fostering a strong technology community.
- Presented on Microsoft products and became Microsoft Azure AI Fundamentals Certified.

Deakin University, Melbourne, Australia **SEBE Peer Support Network Mentor** **02/2024 – 06/2024**

- Mentor and guide incoming students in science disciplines, fostering a supportive learning environment, and achieving a 90% satisfaction rate in student surveys.
- Organize and lead events to enhance student engagement and professional growth, with an average attendance of 100+ students per event.

Deakin University, Melbourne, Australia **Friday Friends Leader** **04/2023 – 10/2023**

- Successfully led and facilitated weekly social catch-ups for incoming international students to provide tailored guidance on study skills, and career development, resulting in a 20% improvement in student retention rates.
- Spearheaded cultural exchange initiatives, promoting mutual understanding and appreciation among attendees from diverse backgrounds.

Women 4 STEM, Australia **Grad Girls Student** **03/2023 – Present**

- Engaged in mentorship sessions and networking events with industry professionals from companies such as PwC, and Victoria Police, building a supportive network.
- Awarded a 1:1 session with Telstra and Motorola Solutions, gaining valuable insights and guidance from experienced technology professionals.