

RAHMAN MOHAMMAD

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OBJECTIVE

Full-stack developer with a Master's in Computer Science and hands-on experience in the MERN stack, CI/CD workflows, and AR/VR applications. Skilled in building responsive web interfaces, integrating APIs, and creating user-focused solutions. Committed to improving processes and bringing new technologies into real-world projects.

Technical Skills:

- **Programming Languages:** Java, Python, JavaScript, C, C++, C#, PHP, HTML, CSS, R, Matlab, Node.js, SQL
- **Backend & API Development:** Node.js, Express.js, RESTful APIs, GraphQL, Lambda (AWS), WebSocket, Axios
- **Database Technologies:** MySQL, Firebase, MongoDB, DynamoDB, SQL, PL/SQL
- **Technologies and Frameworks:** React.js, AngularJS, Spring Boot, Flask, Django, JUnit, Matplotlib, YOLO, PyTorch
- **Internal Tools:** Retool, Webflow, SharePoint Online
- **Database and Tools:** MySQL, PostgreSQL, MongoDB, Unity 3D, Meta Quest SDK, PyCharm, Visual Studio, Android Studio, Git, Postman, Google Cloud, AWS, Docker, Kubernetes
- **Design Tools:** Figma, Sketch, Adobe XD, Adobe Creative Suite, Invision, Illustrator, Photoshop, After Effects
- **UX Research:** A/B Testing, Heatmaps, User Testing, Heuristic Evaluation, Accessibility (WCAG), Adobe Target
- **Agile & Project Tools:** JIRA, Confluence, Agile/Scrum, Notion
- **CRM/Platforms:** Salesforce.Com, salesforce marketing cloud, salesforce sales cloud, interaction studio
- **Additional Skills:** Agile Methodology, Scrum, Object-Oriented Programming (OOP), Test-Driven Development (TDD), RESTful API Development, Responsive Web Design, UX/UI Design Principles, Virtual Reality Development, Machine Learning, Data Visualization, Unit Testing, iClone, NVIDIA Omniverse, NVIDIA Audio2Face, CI/CD Pipelines (Jenkins, GitHub Actions), Network Configuration

PROFESSIONAL EXPERIENCE

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| Center for Innovation through Visualization and Simulation(Purdue University Northwest) | Indiana, USA |
| <i>Research Associate (Temporary hire)</i> | <i>February 2025 –Current</i> |

- **Integrated Virtual Blast Furnace (IVBF) Interface:**
 - Developed real-time monitoring and optimization tool using Unity, Python, and SQL with dynamic dashboards.
 - Automated testing, integration, and deployment using Jenkins CI/CD.
 - Used Docker and Kubernetes for scalable, high-availability deployment and smooth feature updates.
- **Hazard Recognition and Training System:**
 - Created immersive safety training with Unity, 360° videos, and AI-driven object detection.
 - Built YOLO-based model (87% accuracy) for real-time hazard recognition using Python and depth analysis.
 - Improved industry safety by 30–50% and modernized engagement with interactive training.
- **VR Futures:**
 - Developed a psychology-based VR project on Meta Quest to help children and teens overcome trauma and mental health challenges.
 - Designed the entire coursework and showcased the project at Northwest Indiana Summit and the 5th International Single Session Therapies Symposium (SST5).
 - Used iClone and NVIDIA Audio2Face for realistic digital human face creation and animation

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| Graduate Research Assistant | <i>August 2023 – December 2024</i> |
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Developed educational virtual reality (VR) applications for the META Quest platform, focusing on marine biology, scuba diving training, safety, and environmental conservation as part of an NSF-funded project advancing science education through immersive VR. Set up lab servers, configured network access for sharing resources, installed and troubleshooted PCVR systems, and deployed new devices to support development and testing.

- **King of the Sea (Shark Simulator):**
 - Led the development of an immersive VR application providing users with insights into shark biology, behavior, and conservation efforts.
 - Utilized Unity and C# to create interactive experiences exploring shark senses and lifecycles from prehistoric eras to present times.
 - Implemented CI/CD pipelines using GitHub Actions to automate testing, building, and deployment processes for faster and more reliable delivery.
- **Reef Visual Census and Coral Restoration:**
 - Orchestrated the development of an educational VR application and training software for students of marine biology.

- Designed immersive learning modules and simulations to educate users about reef ecosystems and coral restoration techniques.
- Streamlined development and deployment using Jenkins-based CI/CD pipelines to ensure consistent updates and smooth integration of new features.

COX Communication

Hyderabad, India

Application Development Associate

Aug 2021 – Dec 2023

- Redesigned loyalty UI for COX Communications using React and Bootstrap, ensuring mobile-first and cross-platform support.
- Built GraphQL and REST API integrations for dynamic data rendering and improved user experience across digital platforms.
- Integrated AWS Lambda functions to handle backend logic workflows and data processing in real-time.
- Wrote DynamoDB queries to power dynamic dashboards and user preferences based on role-based access.
- Performed WCAG compliance audits and improved color contrast, keyboard access, and screen reader compatibility.
- Implemented unit tests using React Testing Library and configured automated builds through Jenkins CI pipeline.
- Created and maintained design system documentation for UI components to streamline future development cycles.
- Used A/B testing and heatmaps to evaluate design hypotheses and improve component engagement rates.
- Led sprint planning and demo meetings, delivering features iteratively and collaborating with QA and PM teams.
- Created user documentation and onboarding material to help developers adopt reusable UI libraries more quickly.
- Built reusable dropdowns, tables, and form components using custom hooks and state reducers.
- Coordinated with cross-functional teams to define APIs and conduct schema validation across microservices.
- Created accessibility-first forms and menus with ARIA roles and proper semantic HTML tags.
- Resolved production issues and bugs through systematic debugging and log analysis across frontend and backend layers.
- Collaborated with Salesforce developers to build dynamic UI components integrated with Service and Sales Cloud

EDUCATION

- **Purdue University Northwest**
Masters in Computer Science

Indiana, USA
January 2023 – December 2024

RELEVANT COURSES

Applied Statistics (R), Machine Learning (Python), Distributed Systems (Java), Algorithms, Software Design (JUnit, Selenium), AI Projects, Interpreters (Python), Operating Systems, OOP (Java)