Amretasre Rengarajan Thiruvengadam

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EDUCATION

Northeastern University, Boston, MA   May 2024
Master of Science in Information Systems
Courses: Algorithms, Cloud Computing, Design Patterns, Object Oriented Design

SRM Institute of Science and Technology, Chennai, India   May 2020
Bachelor of Technology in Electrical and Communications Engineering

TECHNICAL SKILLS

FRONTEND: HTML5, CSS3, Bootstrap, SASS, Figma, JavaScript, React JS, Redux, Typescript, Jest

BACKEND: Node JS, Express JS, Spring Boot (Java), RESTful API, Mocha, JUnit

DATABASE: MySQL, MongoDB, Redis, GraphQL, Elasticsearch

INFRASTRUCTURE: Pulumi, Terraform, GitLab CI/CD, GitHub Actions

SOFTWARE MANAGEMENT: Agile Methodology, SCRUM Methodology

CLOUD SYSTEMS: EC2, RDS, DynamoDB, Lambda, IAM, VPC, Route 53, CloudWatch

WORK EXPERIENCE

Frontend Developer, New York State Office ITS, Albany, New York   May 2023 - Aug 2023
- Designed and developed custom web components, including form tables and tooltips, using JavaScript to digitize tax forms
- Implemented ARIA landmarks, keyboard navigation, and semantic HTML to prioritize accessibility for users with disabilities, and performed testing using accessibility tools, resulting in a 10% increase in user engagement
- Engineered a command-line application individually to automate the creation of foundational project structures for developers focusing on form development, significantly reducing development time

Full Stack Developer, Cognizant Technology Solutions, Chennai, India   Jan 2020 - July 2022
- Employed ReactJS for lazy loading while developing frontend solutions for three client dashboards, emphasizing minimized DOM manipulation for enhanced performance and yielding a 10% increase in user interaction and improved components response time
- Enforced 100% coding standards with detailed code quality reviews using ESLint, leveraging Snyk for vulnerability detection
- Evaluated component functionality and formulated rigorous unit tests with Chai and Mocha, maintaining an effective 95% coverage
- Integrate tests into continuous integration pipeline to automatically validate code integrations and UI releases via Gitlab CI/CD
- Utilized REST API integration for efficient client-server communication, optimizing performance and minimizing latency
- Participated as a Scrum member, collaborating with cross-functional teams, prioritizing tasks through Jira stories, addressing client needs effectively resulting in a 10% increase in client engagement, and documenting progress through Confluence
- Directed the training and onboarding of new team members, ensuring their smooth integration into project activities
- Reviewed and cleared unused resources in AWS to eliminate unnecessary overhead costs

PROJECTS

Assignment Management API using Node JS: AWS, GitHub Actions, MySQL, Node JS, Postman, RESTful API   Nov 2023
- Developed a scalable RESTful API hosted on AWS using Node.js for Assignment Management, enabling CRUD operations for assignment submissions, while handling assignment downloading via Google Cloud Storage and sending confirmation emails through Mailgun
- Implemented user authentication using HTTP authentication with user credentials and included validation checks for the maximum number of attempts and submission deadlines which improved security, data integrity, and access control for users and eliminated data tampering
- Streamlined the application by using Sequelize as the ORM to interact with the underlying relational database MySQL
- Established automated software deployment, testing, and scalability through GitHub Actions, facilitating rapid deployment of updates
- Utilized CloudWatch alarms and a scalable policy to trigger auto-scaling groups, ensuring new instances are created upon reaching the threshold to maintain continuous application availability and balance traffic between instances using the load balancer
- Accomplished IP address mapping with DNS through Route 53, ensuring users route to the correct IP address

Secure API for Insurance Services: Redis (NoSQL), Node JS, Postman, Elastic Search, RESTful API   Aug 2023
- Developed a robust Health Insurance RESTful API using Node.js and Redis database to ensure efficient storage and retrieval, streamlining its architecture to support CRUD operations for insurance documents using JSON format
- Utilized advanced conditional operations including Update if not changed, conditional read and write to enhance data manipulation
- Implemented JSON schema validation to ensure data integrity and accuracy, thereby enhancing reliability by preventing errors
- Executed join operations and parent-child indexing in Elastic Search to improve search capabilities
- Maintaining efficient handling of requests and data processing through a queueing mechanism with RabbitMQ
- Eliminated risk of unauthorized access by implementing secure authorization using Google Identity Provider and JWT

Travelling Salesman Problem: Java, Java Swing   Dec 2023
- Solved the Travelling Salesman Problem by implementing Object-oriented principles for Christopher's algorithm
- Improved efficiency and performance by employing 2-opt, 3-opt, Simulated Annealing, and Ant Colony Optimization techniques
- Generated the graph using JPanel after performing the code execution against a dataset of 500 entries, depicting the final path