Syed Muhammad Ammar

SENIOR SOFTWARE ENGINEER

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ABOUT ME

As a software engineer, I have over two years of experience in developing software solutions and managing the development lifecycle. I have contributed to innovative product development and delivered software services, focusing on designing scalable architectures, implementing efficient solutions, and leveraging modern development practices to build high-quality systems.

EXPERTISE

TypeScript, JavaScript, Node, React, Next, Express, Java, Micro-Services, SQL, no-SQL, RESTful API, GraphQL, MongoDB, Postgres, AWS, Docker, Azure, CI/CD

INTERESTS

React Native, Large Language Models

CERTIFICATION

- AWS Cloud Foundation Badge
- Developing Backend Apps by IBM
- Programming with JavaScript by META
- React Foundations by META

WORK EXPERIENCE

Dubizzle Labs   Lahore, Pakistan
Senior Software Engineer   June 2024 - Present

- **Bayut.com**
    - **Features:** A leading real estate platform in the UAE, providing property listings, market insights, and neighborhood guides. Expanding to Saudi Arabia and Jordan, *it attracts 5.2% of global online traffic.*
    - **Role & Contributions:**
        - Managed and refactored the content system, *optimizing speed by 40% and reducing build time by 50%.*
        - Converted *300+ GraphQL queries into 24 optimized REST APIs,* significantly reducing request complexity and improving system efficiency.
        - Worked as a Full Stack Developer, implementing high-security measures using *Cloudflare Zero Trust*, including secure access controls, *WAF (Web Application Firewall), DDoS protection, and Zero Trust Network Access (ZTNA)* to safeguard internal systems and sensitive data.
        - Led content-driven strategies, contributing to *90% of Bayut's traffic*.
    - **Technology Stack:** Next, Node.js, PostgreSQL, GraphQL, Strapi, AWS ElastiCache, EC2, Vercel, Typesense, Amazon RDS, Amazon S3, Amazon CloudFront, Elastic Search, Clover, Twilio, SendGrid and many more.
    - **Link:** https://www.bayut.com/

Tossdown   Lahore, Pakistan
Backend Engineer   September 2022 - June 2024

- **Tossdown**
    - **Features:** A scalable e-commerce and POS platform empowering businesses to launch customizable online stores. It supports 350+ restaurants in Pakistan and 500+ in Canada, including top brands like Galito's Canada, Jalal Sons, and Howdy.

- **Role & Contributions:**
  - Led the transition from a _monolithic PHP system to a Java-based micro-service_ architecture, improving scalability and maintainability.
  - Designed and implemented a serverless approach using _AWS Lambda_, optimizing resource allocation and _reducing server costs by 40%._
  - Enhanced system resilience by leveraging event-driven architecture with _AWS SQS and DynamoDB for asynchronous processing._
- **Technology Stack:** Micro-services, Java, AWS Lambda, AWS ElastiCache, Typesense, Amazon RDS, MongoDB, AWS API Gateway, Amazon S3, Amazon CloudFront, Elastic Search, Stripe, Payfast, Jazzcash, Clover, Twilio, SendGrid, JazzSms and many more.
- **Link:** https://tossdown.com

- **Push Health**
  - **Features:** A robust telehealth platform with appointment scheduling, pharmacy referrals, and seamless health communication. Improved UI, patient engagement, and accessibility, with partnerships like Quest Diagnostics.
  - **Role & Contributions:**
    - Developed the _backend architecture from scratch_, ensuring a scalable and resilient system.
    - Architected and implemented _AWS infrastructure,_ leveraging AWS Lambda, API Gateway, and DynamoDB for a serverless and cost-efficient solution.
    - Wrote complete _Infrastructure as Code (IaC)_ to define and automate AWS Lambda deployments.
    - Implemented _HIPAA-compliant security measures_, including encrypted data storage, role-based access control (RBAC), and secure authentication protocols.
  - **Technology Stack:** NodeJS, Express, DynamoDB, AWS, Elastic Search, Vercel, Typesense and many more.
  - **Link:** https://www.pushhealth.com

- **Circle**
  - **Features:** A dynamic _social networking platform_ enabling user-centric groups for seamless communication, similar to WhatsApp and Discord.
  - **Role & Contributions:**
    - Designed and implemented the backend architecture, ensuring scalability and high availability.
    - Developed _real-time messaging functionality_ using WebSockets, enabling instant communication between users.
    - Implemented efficient media processing using Node.js _Streams and Worker Threads,_ enabling asynchronous image and video handling.
    - Implemented role-based access control (_RBAC) and OAuth authentication,_ ensuring secure user interactions and granular permission management. Also Integrated _JWT-based authentication_ for session management, enhancing security.
  - **Technology Stack:** NodeJS, Express, DynamoDB, AWS, Elastic Search, Vercel, Typesense and many more.
  - **Link:** https://www.pushhealth.com

- **Comnow**
  - **Features:** An internal communication platform for doctors, optimizing team connectivity and workflow efficiency. Features secure messaging, file sharing, and task management to streamline inter-departmental communication
  - **Role & Contributions:**
    - Designed and developed the backend architecture from scratch, ensuring scalability, security, and fault tolerance.
    - Integrated _WebSockets with AWS SQS_ for real-time messaging, ensuring message persistence and delivery guarantees in high-load scenarios.

- Implemented *Firebase Cloud Messaging (FCM)* for push notifications, keeping doctors updated on urgent messages and tasks.
- Deployed and managed the application on *AWS with Kubernetes,* leveraging auto-scaling, load balancing, and self-healing capabilities for uninterrupted service.

- **Technology Stack:** Node.js, TypeScript, AWS ElastiCache, Kubernetes, AWS EKS, Amazon RDS, MongoDB, Amazon S3, Amazon CloudFront, Elastic Search, Stripe, Payfast, SendGrid, and more.
- **Link:** https://tossdown.com

and many more projects.

RESEARCH EXPERIENCE

Design Patterns in Cloud-Native Applications
Explored the application of design patterns in the development of cloud-native applications. Analyzed the usage and effectiveness of patterns like *Service Mesh, Circuit Breaker, and Sidecar* in distributed environments. Developed metrics for evaluating pattern implementations' scalability, resilience, and performance.

Business Process Engineering
Collaborated with professor to identify and *optimize business processes* from deployed products by analyzing software flow, including database interactions. Utilized mixed-methods approach and process mining tools for analysis

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EDUCATION

FAST NUCES   Islamabad, Pakistan
Bachelor of Science in Software Engineering
CGPA: 3.21

Government College Civil Lines   Lahore, Pakistan
Intermediate of Computer Science
Grade: A+

EXTRACURRICULAR ACTIVITIES

- *FAST Software Engineering Society President:* As a president of the FAST Software Engineering Society, I collaborated on tech innovations with peers and industry professionals
- *NASCON Social Head:* Led event outreach, enhancing student community engagement.
- *Snooker Sport Enthusiast:* Engaged in snooker, honing strategic thinking and precision

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