Zannatul Naim

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WORK EXPERIENCE

Synesis IT   June 2024 – Present
Software Engineer I   *Dhaka, Bangladesh*

- Architected and synchronized a real-time notification system for Convay and Chat applications, improving user engagement and communication efficiency.
- Designed and implemented a scalable centralized management system, utilizing Spring Boot 3 for backend logic and React.js for a dynamic, responsive frontend.
- Enhanced existing legacy open-source projects through the development and integration of new features, directly improving system stability and user experience for over 1000+ active users.
- Developed a sophisticated WebRTC monitoring system capable of analyzing critical video quality parameters and identifying opportunities for performance optimization, especially for large participant groups.

Sentien.io   Jan 2024 – July 2024
Founding Engineer   *Newark, Delaware, United States*

- Directed and mentored a team of 5 engineers, driving increased collaboration and quantifiable improvements in team productivity.
- Leveraged Terraform for Infrastructure as Code (IaC), achieving a 47.5% reduction in cloud expenditures and significantly boosting system uptime.
- Seamlessly integrated Azure cloud services to strengthen system security protocols and enhance efficiency in resource allocation.
- Designed and implemented a resilient multi-server queuing system, providing users with accurate wait time estimates and improving service flow.
- Enhanced Unreal Engine application performance in Windows environments by automating optimization processes with PowerShell.
- Built and automated CI/CD pipelines using GitHub Actions, accelerating deployment cycles for both Windows and Linux environments.
- Introduced a shared schema migration framework, ensuring data consistency and streamlined development across all microservices.

Warranty-Worx   Mar 2023 – Dec 2023
Software Engineer   *California, United States*

- Designed and implemented a house warranty management platform utilizing the MERN stack, effectively simplifying complex document workflows.
- Created efficient RESTful APIs and an automated system for warranty deadline notifications, improving operational efficiency.
- Successfully deployed and maintained application infrastructure on Render.com, ensuring 99.9% uptime and consistent service reliability.
- Developed comprehensive warranty claim processing system with automated validation rules and multi-stage approval workflows, reducing claim processing time by 60% and minimizing manual errors through systematic status tracking and document verification

ICT Cell, BUET   Oct 2021 – Mar 2023
Software Engineer   *Dhaka, Bangladesh*

- Directed the backend team to engineer and launch BUET's Job Portal serving 1,000+ users with peak loads of 200+ concurrent users during application deadlines.
- Enhanced platform performance and availability by implementing caching strategies and optimizing PostgreSQL queries, achieving a 40% reduction in response times and 10% higher availability.
- Managed on-premise deployment utilizing Docker and Nginx, resolving 15+ critical production issues with minimal downtime, ensuring stable operation in a resource-constrained environment.
- Contributed significantly to backend development, adding new features and ensuring continuous server maintenance.

PROJECTS

Scalable Websocket   June 2025
- Designed and implemented a scalable WebSocket server in Go, utilizing gorilla/websocket for efficient message handling and graceful client/server management.
- Integrated RabbitMQ for inter-server messaging, configuring fanout and topic exchanges to enable global and targeted message broadcasting across distributed server instances.
- Incorporated Redis for presence tracking and session caching, ensuring server statelessness and facilitating low-latency, non-persistent message handling.
- Configured Nginx as a load balancer for WebSocket connections, implementing proxying with proper headers and sticky sessions using ip_hash for consistent user experiences.
- Developed a comprehensive k6 test suite to simulate up to 10,000 concurrent WebSocket connections, performing incremental load testing and detailed performance analysis for bottleneck identification.
- Engineered a stateless server architecture by offloading all shared session data to Redis, enhancing system resilience and facilitating seamless server failover.

Soul Animal   Dec 2023
- Implemented infrastructure as code using Terraform to provision and manage Azure resources, enabling reproducible deployments and reducing manual configuration errors by 85%
- Architected secure network architecture with isolated subnets, NSGs, and Azure Managed Identity authentication, implementing zero-trust security principles and eliminating hard-coded credentials
- Built automated CI/CD pipeline using GitHub Actions with containerized deployment workflows, achieving sub-10 minute deployment cycles and reducing production incidents by 70%

POC Learning Platform   Sept 2020 – Dec 2020
- Architected a serverless online learning platform using Express.js and Serverless Framework, designing scalable microservices architecture that automatically handles traffic spikes and reduces infrastructure costs by eliminating server maintenance overhead
- Implemented comprehensive course management system with features for content authoring, curriculum organization, and instructor dashboard, enabling seamless course creation and administration workflows for educational content delivery
- Developed user progress tracking and analytics engine that monitors learning milestones, completion rates, and engagement metrics, providing personalized learning paths and detailed performance insights for both learners and administrators

EDUCATION

Bangladesh University of Engineering and Technology   2019 – 2024
Bachelor of Science in Computer Science and Engineering   CGPA:*3.27*

TECHNICAL SKILLS

- **Languages** : C/C++, Go (Golang), Java, JavaScript, Python, SQL, TypeScript
- **Frameworks & Libraries** : Django, Express.js, FastAPI, Flask, Prisma, Spring Boot
- **Tools & Technologies** : Docker, Git, Nginx, RabbitMQ, Redis, Serverless, Terraform
- **Databases** : MongoDB, MySQL, Oracle, PostgreSQL
- **Cloud Platforms** : AWS, GCP, Microsoft Azure

ACHIEVEMENTS

- **DU-IIT IT-Verse 2023 Winner (DevOps Category)**: Built tax return platform handling 1,000+ simulated users using AWS ECS, implemented CI/CD with GitHub Actions and infrastructure automation using Terraform.
- **BUET CSE Fest Hackathon 2022 Winner (DevOps Category)**: Built vaccination registration system using AWS CodePipeline and load balancer, achieving high availability with zero downtime during peak registration periods.