

Md. Salman Hossain

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Education

East West University <i>Bachelor of Science in Computer Science</i>	Feb 2023 Dhaka, Bangladesh
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Experience

Technometrics Ltd <i>Software Engineer</i>	Feb 2023 – Present Dhaka, Bangladesh
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- Architected and deployed scalable web scraping solutions for multi-platform social media data extraction (Facebook, YouTube, Instagram, Telegram) with real-time data processing and automation bots using Python, Selenium, BeautifulSoup, and Telethon.
- Built high-performance RESTful APIs with FastAPI and Django REST Framework, implementing JWT authentication, role-based access control, and encrypted credential management for robust security and optimized response times.
- Designed and optimized MongoDB schemas for efficient data storage and retrieval at scale, implementing bulk operations and proper indexing for improved performance in large-scale data processing.
- Led development of advanced NLP classification system for bKash social media sentiment analysis, implementing topic classification, named entity recognition, and sentiment analysis with 85.71% accuracy using LLMs, achieving automated social media monitoring for Bangladesh's largest MFS platform.
- Contributed to the development of a comprehensive e-recruitment system for Border Guard Bangladesh using Django and React, serving thousands of applicants with enterprise-grade security features including 2FA and SSL-secured payment integration.
- Containerized applications using Docker and Kubernetes, implemented CI/CD pipelines for automated testing and deployment, ensuring consistent performance and scalability across different environments.

Technometrics Ltd <i>AV Systems Engineer</i>	Feb 2022 – Jan 2023 Dhaka, Bangladesh
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- Designed and integrated enterprise-grade Audio-Visual systems for corporate environments, programming Crestron automation systems using SIMPL for seamless AV control and scheduling.
- Implemented Dante-based digital audio solutions and Xilica DSP configurations for superior sound quality in conference rooms and meeting spaces.
- Led deployment of IoT-enabled Vault Alarm and Monitoring Systems across 35+ Jamuna Bank branches using DSC DLS programming, Sur-Gard receiver configuration, and Kronos server integration, ensuring reliable real-time surveillance and alerting.
- Deployed comprehensive IoT-based security systems and surveillance infrastructure for large-scale banking and corporate environments, ensuring high availability and compliance with institutional standards.
- Led AV system deployment at Unilever Bangladesh, ensuring high-quality audio-visual experience with comprehensive technical training and documentation.

10xtrucks.com <i>Full Stack Developer</i>	Jan 2021 – Jan 2022 Remote
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- Developed cross-platform mobile applications for logistics platform using React Native for both user and driver interfaces with real-time functionality.
- Built comprehensive Laravel-based admin dashboard for managing trips, users, driver operations, and business analytics with intuitive user interface.
- Integrated APIs for real-time location tracking, push notifications, trip status updates, and payment processing to enhance user experience.
- Collaborated with product teams to deliver critical features within aggressive timelines while maintaining code quality and performance standards.

Projects

bKash SIDA - AI-Powered Social Media Analytics | Python, LLMs, NLP, Pandas, Scikit-learn July 2025 – Present

- Developed comprehensive NLP pipeline for Bangladesh's largest mobile financial services platform, implementing multi-class topic classification (ISSUE, QUERY, COMPLAINT, FEEDBACK) with 85.71% accuracy using advanced prompt engineering and Large Language Models.
- Engineered automated Bengali text processing system with Named Entity Recognition (NER) for financial entities, sentiment analysis, and contextual understanding, processing thousands of social media interactions for real-time customer insights.
- Implemented dynamic prompt generation and judgment evaluation system with unique prompts per classification instance, featuring comprehensive scoring mechanisms and automated performance benchmarking for continuous model improvement.
- Designed scalable data preprocessing workflows with MongoDB integration, CSV/JSON export capabilities, and optimized batch processing, ensuring efficient handling of large-scale social media datasets with proper data validation and quality assurance.

CTTC Social Media Monitoring System (Data API & Analytics) | Django, Elasticsearch, PostgreSQL, MinIO, Docker 2023 – Present

- Architected high-performance data API system processing millions of social media records with Elasticsearch backend, achieving 95% performance improvement through advanced query optimization, intelligent caching strategies, and modular API architecture supporting real-time analytics and monitoring.
- Implemented enterprise-grade authentication and authorization using Django REST Framework with Bearer token authentication, featuring granular role-based access control (RBAC), dynamic permission validation, and comprehensive audit logging for compliance and security requirements.
- Designed scalable RESTful API architecture with advanced features including multi-select filtering, dynamic pagination, keyword-based search, and real-time data synchronization, supporting high-throughput operations with sub-second response times for large-scale data processing.
- Developed comprehensive person and activity tracking APIs with optimized Elasticsearch queries, implementing intelligent data aggregation, sentiment analysis integration, and performance monitoring to handle enterprise-level social media analytics workloads.
- Created modular API structure with separated view files for optimal performance, implementing advanced caching mechanisms, query optimization techniques, and distributed processing to ensure scalability and maintainability in production environments.
- Integrated distributed storage with MinIO S3-compatible services and comprehensive API documentation using Swagger/OpenAPI, featuring interactive testing interfaces, automated schema generation, and security configurations for enterprise deployment.

Vault Alarm and Monitoring System – Jamuna Bank Bangladesh | DSC DLS, Sur-Gard, Kronos, IoT 2022 – Present

- Leading end-to-end deployment of IoT-enabled Vault Alarm and Monitoring System across 35+ Jamuna Bank branches, ensuring 24/7 real-time surveillance, secure alert transmission, and centralized monitoring.
- Programmed DSC panels using DLS software, configured Sur-Gard receivers, and integrated Kronos servers for synchronized data communication and system reliability.
- Developed automation scripts for alarm event logging, performance monitoring, and system health checks, improving operational efficiency and minimizing downtime.
- Collaborating with cross-functional teams to implement scalable architecture, provide field support, and deliver comprehensive technical documentation and user training.

GGB E-Recruitment Platform (Payment & Security System) | Django, ReactJS, MySQL, Docker, REST API 2023 – Present

- Developed secure payment processing system with automated transaction handling, featuring role-based access control and comprehensive audit trails for financial compliance and regulatory requirements.
- Implemented 2FA authentication system with QR-based verification, secure session management, and encrypted data transmission protocols ensuring high-security standards for sensitive recruitment data.
- Deployed containerized system using Docker with optimized APIs, automated result processing, and secure file handling for admit card generation and payment reconciliation workflows.

AV Automation – Huawei Bangladesh | Crestron SIMPL, Netgear AV, Xilica DSP, Dante Dec 2024 – Feb 2025

- Designed and deployed latency-free AV switching and conference audio systems using Dante and Crestron for enterprise communication infrastructure.
- Configured Netgear AV network switches with optimized routing protocols and performance monitoring for high-quality audio-visual transmission in corporate environments.

ZKTeco Access Control – Huawei Bangladesh | ZKTeco, PostgreSQL, RBAC, Biometric Auth Dec 2024 – Feb 2025

- Implemented enterprise biometric access control system with real-time logging, audit trails, and comprehensive security monitoring for corporate facility management.
- Configured PostgreSQL backend with optimized queries, data encryption, and backup strategies while delivering comprehensive system training and documentation.

Enterprise AV System – Unilever Bangladesh | Crestron SIMPL, Xilica DSP, Dante, IoT April 2022 – Feb 2023

- Deployed robust Dante-based digital audio network across multiple conference facilities, ensuring high-fidelity transmission, synchronization, and enterprise-grade reliability for mission-critical communications.
- Configured and integrated advanced Crestron UC solutions including UC-MMX30-T, UC-MX50-T, and UC-MX70-T with comprehensive system monitoring, automation protocols, and seamless integration capabilities.
- Delivered detailed technical documentation, implementation guides, and hands-on training programs for IT staff ensuring sustainable operation and maintenance of enterprise AV infrastructure.

Technical Skills

Languages: Python, JavaScript, SQL, Bash, HTML/CSS, YAML

Frameworks/Technologies: FastAPI, Django, Laravel, React Native, React.js, LangChain, Telethon, Selenium, BeautifulSoup, Pydantic

Machine Learning & NLP: TensorFlow, Transformers (Hugging Face), NLTK, spaCy, Sentiment Analysis, LLM Integration

Data Handling & Storage: MongoDB, MySQL, PostgreSQL, MinIO

Search: Elasticsearch, Monstache

Task Queue: Celery, Redis

DevOps & Tools: Docker, Docker Compose, Git, GitHub Actions, NGINX, Postman, SSH, SCP, Kibana

Cloud Platforms: AWS (EC2, S3, IAM), DigitalOcean

Concepts: Full Stack Development, Web Scraping, Social Media Bot Automation, NLP Pipelines, CI/CD, OAuth/2FA, RBAC, Microservices, Agile Development, AV/IoT Integration, Linux Server Management, Data Pipelines, ETL

Certifications

Fundamental Information Technology Engineer Examination (ITEE) – Internationally recognized government-level certification from Japan

Python for Data Science, AI Development – IBM

Data Science and Machine Learning from Basic to Advanced – Udemy

Mastering Selenium: Web Automation Essentials – Udemy

Docker and Kubernetes: From Beginner to Advanced – Udemy

Python Django REST API Bootcamp – Udemy

Amazon Elastic Container Service (ECS) – AWS Digital Training

Self-Driving Car with ML, DL and CV – Udemy

Google IT Support Certificate – Coursera (Google)