

Md Iqbal Hossain Shuvo

✉ isuvo@outlook.com

🌐 ixuvo.com

🐙 github.com/isuvo

🌐 linkedin.com/in/isuvo

📞 +1 (438) 453-2363

SUMMARY

I design, build, and lead scalable end-to-end systems, bringing 10+ years of experience bridging leadership and technical execution to deliver modern cloud-native platforms and AI-driven products across teams, architecture, and production.

EDUCATION

Master of Science in Computer Science

Bishop's University

2024 – 2025

Quebec, Canada

- **Research:** Interprocedural vulnerability detection in source code using CDL over CPG, leveraging GNN and transformer architectures.

EXPERIENCE

Engineering Lead

[AI-Driven SaaS · Engineering Leadership · Distributed Systems · DevSecOps] Apr 2026 – Present

[Kage Technologies Inc.](#)

Sherbrooke, Canada

- Lead end-to-end engineering of the multi-tenant, AI-driven [Amäia platform](#) across architecture, application development, cloud deployment, and operations, while partnering with the CEO and CTO on technical strategy, system design, and product roadmap.
- Design and implement AI-driven workflow orchestration that connects interactive conversational interfaces with backend services, enabling automated operational workflows and more intuitive user experiences.
- Lead engineering and DevOps delivery for secure cloud-native microservices, strengthening CI/CD, access control, and secure development practices aligned with OWASP Top 10 principles. To accelerate delivery, introduced agentic development workflows and AI-assisted engineering practices that improved development efficiency by **50%**. Also contributed hands-on to product delivery, stakeholder engagement, hiring, and team growth.

Senior System Developer

[Distributed Systems · Microservices · Cloud · DevOps] Jun 2019 – Dec 2023

[Foreign, Commonwealth & Development Office, United Kingdom](#)

London, United Kingdom

- Led modernisation of the [United Kingdom Aid Tracker platform](#), redesigning service-oriented application and infrastructure components and data publishing pipelines for large public transparency datasets, reducing end-to-end data publishing latency by **80%** and improving platform responsiveness.
- Built DevSecOps and automated publishing pipelines integrating EDRM with government transparency platforms and secure APIs, reducing release cycles by **40%**, manual effort by **90%**, and security vulnerabilities by **25%**.

System Developer

[.NET Core · CQRS · Enterprise Systems · Agile] Mar 2013 – May 2019

[Foreign, Commonwealth & Development Office, United Kingdom](#)

London, United Kingdom

- Architected and delivered enterprise-grade RESTful WebAPI services on the .NET platform for high-availability government and public transparency systems, enabling secure data exchange, scalable service communication, and accessibility-compliant user experiences.
- Strengthened reliability and delivery performance across mission-critical applications through performance tuning, deep debugging, refactoring, and automated CI-driven testing, improving maintainability and release confidence.

Early Career

[.NET · MSSQL · ERP · Billing Systems · ETL]

Dec 2010 – Mar 2013

Enterprise Systems, ERP & Telecom Solutions

Dhaka, Bangladesh

- Built ERP, real-time inventory, and telecom billing and ETL solutions on .NET and MSSQL. Designed modular applications, T-SQL workflows, and Call Detail Record ingestion and reporting pipelines to support finance, inventory control, billing accuracy, reconciliation, and service analytics. Reduced manual processes by **70%** and improved workflow efficiency by **25%**.
- Supported migration, rollout, and adoption of these business-critical platforms by coordinating data transitions, issue resolution, and post-deployment stabilisation, improving maintainability, operational continuity, and team efficiency.

RESEARCH & CONSULTING EXPERIENCE

Graduate Research Assistant

[CDL · GNN · CPG · Transformer · Software Vulnerability Detection]

Sep 2024 – Dec 2025

Bishop's University

Sherbrooke, Canada

- Developing an AI-driven framework for interprocedural software vulnerability detection and root-cause tracing using graph-based program representations, GNNs, transformers, and causal inference.
- Publication: [Detecting Interprocedural Software Vulnerabilities Using Causal Deep Learning over Code Property Graphs](#) (2026).

Development Consultant (Part-time)

[Blockchain · Permissioned Ledger · PBFT · HMAC · NS-3 · Python] Oct 2022 – Dec 2025

Blockchain Security for UAV Networks

Australia (Remote)

- Architected and implemented a blockchain-based security framework for UAV communication networks, integrating a permissioned ledger, PBFT-style consensus, and HMAC-based authentication to secure node communication and distributed trust. Validated the design through NS-3 simulations on Debian with Python-based analytics, estimating a **30%** reduction in security breach probability.

AI Cybersecurity Intern

[IoT Security · BLE Protocol · ML-Based Threat Detection · HIPAA · Swift]

Aug 2024 – Mar 2025

[Healthsign](#)

Ottawa, Canada

- Executed end-to-end security validation of the [Healthsign smart wristband platform](#), including BLE traffic sniffing, packet manipulation, and Firebase attack-surface analysis; designed and tested a HIPAA-compliant AI-driven defence layer incorporating encryption, access control, secure authentication, and ML-based cyber threat detection.

Delivery Consultant (Part-time)

[ERP · SaaS · Enterprise Application Development · Coordination]

Jun 2014 – Dec 2014

[Addie Soft Ltd](#)

Bangladesh

- Led the end-to-end SDLC and technical project delivery of a multi-tenant **SaaS** based education ERP platform serving **100+** institutions, overseeing system architecture, backend development, and operational workflows while implementing a scalable Azure cloud infrastructure and deployment strategy.

RESEARCH & TECHNICAL PROJECTS

- **CausalChain: AI-Driven Software Vulnerability Analysis** (Research Project, 2024–2025): Designed a scalable framework for automated vulnerability detection using heterogeneous Code Property Graphs to model structural, control-flow, and data-flow dependencies across large codebases. Implemented deep learning pipelines combining Graph Neural Networks and Transformer-based code encoders to generate joint structural–semantic embeddings of program elements. Developed causal analysis modules to reconstruct vulnerability propagation chains (**root** → **propagation** → **sink**) and enable interpretable root-cause identification across interprocedural execution paths.
- **BlockChainNS3: Blockchain-Based Secure UAV Communication Simulation** (Research Project, 2022–2025): Developed a blockchain-enabled secure communication framework for UAV networks using the NS-3 discrete-event network simulator, modelling decentralised peer-to-peer nodes executing distributed ledger operations over simulated wireless links. Implemented custom blockchain node applications supporting transaction propagation, block generation, and distributed consensus while integrating cryptographic authentication mechanisms to ensure tamper-resistant message exchange.
- **AutoResume: Automated CI/CD Resume Generation Pipeline** (Engineering Project, 2025): Designed and implemented a fully automated resume generation system leveraging LaTeX, GitHub Actions, and cloud-based artefact distribution. Architected a reproducible CI/CD pipeline that automatically compiles .tex source into ATS-friendly PDFs upon commit, integrating API-driven workflows for real-time notification and versioned releases.
- **DSGenAI-2025: Dependable & Secure Generative AI Workshop Platform** (Research Project, 2025): Designed, deployed and managed the official workshop website for [DSGenAI-2025](#), supporting research dissemination and conference coordination for dependable and secure Generative AI systems.
- **50Algorithms: Core Algorithm Implementations** (Educational Project, 2025): Developed a curated collection of **50 core algorithms** in Python covering graph traversal, dynamic programming, greedy optimisation, and search/sorting techniques, each with complexity analysis and structured documentation to support algorithmic learning.

SKILLS

- **AI/ML & Security:** Transformers (PyTorch, TensorFlow), RAG Pipelines, Agentic AI, Causal Inference, SAST/DAST, Threat Modelling
- **Backend, Messaging & APIs:** .NET Core, Python (FastAPI, Flask, DRF), Node.js, gRPC, REST, Kafka, RabbitMQ, Google Cloud Pub/Sub, CQRS, Event-Driven Architecture (EDA)
- **Cloud & DevSecOps:** Azure (AKS, Functions), GCP, Docker, Kubernetes, CI/CD (GitHub Actions), IAM, Secrets Management
- **Data & Databases:** T-SQL, NoSQL (CosmosDB, MongoDB), Vector Databases (Pinecone, Weaviate, Chroma), Redis
- **Frontend & UI:** React, Angular
- **Languages:** C#, Python, Java, TypeScript, SQL, LINQ
- **Leadership & Professional Practice:** Technical Architecture, System Modernisation, Cross-Functional Delivery, Agile/Scrum, Stakeholder Communication, Mentorship

TRAINING & CERTIFICATIONS

• BCS Practitioner Certificate in Agile The Chartered Institute for IT	Certificate 394202 · Candidate WV36447259	Oct 2017 United Kingdom
• Developing Solutions for Microsoft Azure Microsoft Certified Training		2017 Iverson, Malaysia

LANGUAGES

English (Professional proficiency) · French (Intermediate)

PROFESSIONAL AFFILIATIONS

- **Associate Member**, Bangladesh Computer Society Jan 2015 – Dec 2023
Engaged in advanced professional discourse through seminars and technical conferences spanning cybersecurity threat modeling, distributed systems architecture, cloud security frameworks, and IT governance.