

Sadat Arefin Rafat

Software Engineer

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PROFILE

Full stack software engineer with 3+ years building enterprise .NET, Blazor and Angular applications with Autodesk APIs for Dutch AEC and manufacturing clients. Experienced across desktop, cloud, CAD interoperability and AI-assisted engineering, with measurable performance gains, infrastructure cost reduction and AI tooling adoption for non-technical contributors.

EXPERIENCE

- HawarIT Limited**  Jun 2026 – Present | Dhaka, Bangladesh
Software Engineer
 - Designed connection detection logic for MEP elements (pipes, ducts, reducers), classifying actions (weld, cut, glue, cuff) to drive billing by action count, resolving complex 3D edge cases
 - Extended the Bill of Material system with STEP and IFC support for estimation, prefab generation and 3D visualization
 - Boosted BOM processing speed 4x via parallel processing and eliminated timeouts by migrating to a background Azure Function
 - Self hosted a new project on premises (IIS, Gitea, Seq, PostgreSQL), cutting cloud costs, and configured it for non-technical Replit contributors
 - Evaluated seven AI coding platforms and led Replit adoption across two teams, including demos and documentation
 - Built a department scoped approval workflow for Building Assembly with field permissions and real time SignalR notifications
- Refactor Logic**  Aug 2025 – Jun 2026 | Dhaka, Bangladesh
Software Engineer (Part-time)
 - Architected RefactorPOS, a cross-platform POS platform for restaurant, retail and wholesale businesses using .NET, Angular, Capacitor, PostgreSQL and SQLite
 - Designed the application architecture, offline sync strategy and CI/CD pipelines
 - Built inventory, sales, purchasing and reporting modules with a modular backend
 - Ran customer trials and translated feedback into product improvements
- HawarIT Limited**  Aug 2023 – Jul 2025 | Dhaka, Bangladesh
Software Engineer
 - Built enterprise BIM, manufacturing and engineering collaboration platforms using .NET, Blazor, WPF and Autodesk APIs
 - Reduced Revit synchronization time from about 25 minutes to 5 through parallel processing and delta synchronization
 - Developed Fusion 360 integrations and browser based Three.js viewers for IFC, GLTF and engineering models
 - Built engineering communication portals and manufacturing approval workflows for project delivery
 - Led R&D on agentic engineering workflows, improving debugging and delivery speed
 - Optimized SQL queries and large engineering workflows across production systems
 - Deployed Azure infrastructure including App Service, Azure SQL, Functions, Storage and DevOps pipelines
 - Led code reviews, architecture improvements and technical mentoring across multiple projects

SKILLS

Languages & Frameworks: C#, ASP.NET Core, Blazor, WPF, Angular, React, TypeScript, Python, Three.js

Cloud, Data & DevOps: Azure App Service, Azure Functions, Azure Storage, Azure SQL, Docker, Docker Compose, EF Core, SQL Server, PostgreSQL, RabbitMQ, Azure DevOps, GitHub Actions

AI Engineering: Agentic Engineering, AI-Assisted Development, Multi-Agent Systems, LangGraph, Semantic Kernel, RAG, LLM Integration

Architecture & Platforms: Clean Architecture, DDD, CQRS, Microservices, REST APIs, Revit API, Autodesk Fusion API

PROJECTS

- CivicOS: AI-Powered Digital Government Platform**
Python, .NET, FastAPI, Angular, PostgreSQL, PostGIS, Azure, Kubernetes, LangGraph, Three.js
- Architecting an AI-native municipal platform spanning 20+ government service domains via modular microservices and autonomous agents
 - Built AI agents for citizen support, document processing, complaint routing and inter-department coordination
 - Developed GIS and digital twin capabilities using drone imagery, PostGIS and Three.js
 - Designed secure multi-tenant RBAC, event-driven communication and scalable Azure deployment

EDUCATION

B.Sc in CSE Jan 2019 – May 2023 | Gazipur, Bangladesh
Islamic University of Technology 
Research: Image and Video Super Resolution with Deep Learning