KM Ferdous

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Summary

Software Engineer with 10+ years of experience in designing and delivering scalable systems across FinTech, Government, and Telecom domains, supporting platforms used by **1M+ users**. Proven expertise in building high-performance backend systems and low-latency services. Strong proficiency in **C#, .NET, Python, and Java**, with hands-on experience in SQL and NoSQL databases, microservices, cloud platforms (AWS). Currently pursuing an **MS** in Computer Science at Kennesaw State University, with active research focused on **LLM-based AI agents** for software reliability.

Education

Kennesaw State University — Georgia, USA
Master of Science in Computer Science — *Jan 2025 – Present*

Bangladesh University of Engineering and Technology — Dhaka, Bangladesh
Bachelor of Science in Computer Science and Engineering — *Jan 2008 – Feb 2013*

Experience

Graduate Research Assistant — Jan 2025 – Present
Kennesaw State University — *Georgia, USA*
- Designed and evaluated **LLM-based agentic** systems to analyze software reliability issues across large scale open-source codebases.
- Built automated analysis workflows using GitHub APIs and Python to curate datasets.
- Conduct empirical studies on **AI Agents** in software development life cycle.
- **Tech Stack**: Python, CrewAI, langchain, Prompt Engineering, Chain-of-Thought, LLMs

Lead Software Engineer — Apr 2023 – Jul 2024
EcoSoftBD IT Ltd — *Dhaka, Bangladesh*
- Led development of a stock exchange share trading platform, managing backlog refinement, sprint planning, and code reviews.
- Achieved **5x** performance and **10x** streaming efficiency through data-model optimization and service refactoring.
- Contributed as a Quant Developer on quantitative trading systems for the stock exchange.
- Developed exchange facing modules using **FIX, ITCH, and FAST** protocols.
- **Tech Stack**: C#, ASP.NET Core, MongoDB, PostgreSQL, Entity Framework Core, Redis, SignalR, REST API, AWS, React, Cypress, NUnit, Git, Bitbucket, Postman, Datadog.

IT Consultant — Jan 2019 – Mar 2023
Ministry of Finance — *Dhaka, Bangladesh*
- Collaborated with stakeholders to translate policy and compliance requirements into scalable software solutions for a national budget and accounting system.
- Automated payroll processing, and service history management for **over 1 million** government employees.
- Improved reporting accuracy and processing performance through SQL and PL/SQL optimization.
- Delivered a house loan subsidy module with automated EMI calculations, benefiting **2,000+** employees.
- **Tech Stack**: C#, ASP.NET MVC, ASP.NET Core, Oracle, PLSQL, Redis, NUnit, TFS, Git.

Software Engineer — Feb 2013 – Dec 2018
Reve Systems Ltd — *Dhaka, Bangladesh*
- Led development of the company's flagship enterprise telecommunications messaging and calling application.
- Improved audio processing throughput and overall system performance by **7x**.
- Researched and implemented protocol-level features (SIP, RTP, FFMPEG) in production systems.
- **Tech Stack**: C#, C++, WPF MVVM, .NET, Java, Springboot, MySQL.

Technical Skills

Languages: C#, Python, Java, C/C++, SQL, PLSQL, JavaScript, Bash
Frameworks: .NET, ASP.NET MVC, ASP.NET Core, EF Core, CrewAI, Spring boot, WPF, MVVM
Database: Oracle, MySQL, PostgreSQL, Redis, MongoDB, SQLite
AI & LLMs: AI Agents, Prompt Engineering, Chain-of-Thoughts, GPT, Gemini, Claude
Version Control: Git, TFS
Cloud & DevOps: AWS, Bitbucket, Jenkins, Azure
Developer Tools: Visual Studio, VS Code, IntelliJ, Burp Suite, Postman, Docker, Burp Suite
Testing Framework: NUnit
Quantitative Finance: QuantLib
Protocols: FIX, ITCH, FAST, SIP, RTP, UDP, TCP, HTTP, REST
Project Management Tool: ClickUp, Jira, Confluence