

Shehryar Amin

+46 70 009 33 32 | ibneadam388@gmail.com | linkedin.com/in/sharryy | github.com/sharryy

Education

Uppsala Universitet

Masters in Computer Science

Uppsala, Sweden

Sep. 2025 – Jun 2027 (Expected)

– Relevant coursework: Parallel Programming, Compiler Design, Advanced Computer Architecture, Secure Computer Systems.

National University of Sciences and Technology (NUST)

Bachelor of Software Engineering

Islamabad, Pakistan

Sep. 2019 – Jun 2023

Experience

Backend Engineer (Freelance)

July 2024 – July 2026

Redirhub

Remote (Mexico)

- Built a Go service that streams **115M+ daily click events** from Kafka to ClickHouse, enabling real-time analytics over **230M+ records** within the first 48 hours of deployment.
- Cut a data processing job's runtime by **98.5%** (from **6,000s to 90s**) by replacing LIMIT/OFFSET queries with cursor-based pagination.
- Reworked the data import/export process, cutting the time to process **200,000+ domains** from several minutes to **under 30 seconds**.
- Built a multi-provider failover system for domain verification (Google, Cloudflare, OpenDNS, Quad9) with automatic switching, keeping availability at **99.99%**.
- Refactored the legacy database schema to support bulk updates of **100,000+ records** with zero downtime.
- Wrote the application test suite from scratch for an untested legacy codebase, raising coverage from **0% to 70%**.
- Built and launched an integration with the AppSumo marketplace, adding a new user-acquisition and revenue channel.

Backend Engineer

Mar. 2023 – Aug 2025

Syllaby

San Antonio, USA (Remote)

- Built AI video generation tools, including URL-to-video from web content, Text-to-Video (Google VEO-3), and custom character modeling.
- Integrated multiple AI models (Replicate, MiniMax, Veo-3) into the video generation workflow, handling model selection, prompt routing, and output processing.
- Built a Stripe-to-Postgres ETL pipeline that automates reporting of business metrics such as customer LTV and churn rate.
- Built a social media module for publishing, scheduling, and analytics across six platforms: Facebook, Instagram, LinkedIn, YouTube, TikTok, and Threads.

Backend Engineer

Aug. 2022 – Dec 2023

RedLayers Inc.

London, England (Freelance)

- Cut a recursive query's execution time by **95%** (from **7 sec to 0.3 sec**) by rewriting the data retrieval logic as a graph-based search.
- Built the backend services for an interactive 3D modeling application where users design and visualize barns, with a Three.js front-end.
- Built e-commerce features including a user dashboard, product filtering, and a quote-cart system for B2B sales.

Research Experience

Research Assistant

June 2026 – Present

Uppsala Universitet (supervisor: Paul Fiterău-Broștean)

Uppsala, Sweden

- Extended Kleener, a KLEE-based symbolic execution framework for network protocol testing, with CoAP support: an RFC 7252 parser/serializer, an in-process socket model, and 13 specification-derived monitors for testing libcoap and FreeCoAP.
- Performed differential testing across implementations (libcoap vs FreeCoAP) and versions (libcoap 4.3.5 vs 4.3.1) using Z3-based cross-checking of recorded path constraints, reproducing four independently fixed libcoap defects and uncovering two previously unknown conformance defects.
- Discovered a token-spoofing flaw and two use-after-free memory corruption bugs in libcoap's proxy paths via manual audit; CVE requests for the memory corruption bugs filed with MITRE.

Technical Skills

Languages: PHP, Python, Go, JavaScript, SQL, C/C++, Assembly (MIPS).

Backend: REST and GraphQL API development using Laravel, Flask and Go. Proficient in relational databases like MySQL, Postgres and SQLite; analytics with ClickHouse; caching and queues with Redis and Kafka.

Cloud & DevOps: AWS (EC2, Route 53, RDS, S3), Cloudflare, DigitalOcean; Docker, Git/GitHub Actions, Linux.

Security Tools: GDB, Metasploit, Wireshark, Nmap, Burp Suite.

Core Concepts: Database Optimization, API Design, Algorithm Optimization, Distributed Systems, Memory Management, Deep Packet Inspection.