

Abdul Manan

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EXPERIENCE

Cloudflare

System Engineer

Austin, TX

Nov 2025 – Present

- Build Cloudflare One Zero Trust data-plane components for policy-driven routing across a global edge network of 50K+ servers handling billions of requests per day.
- Enhance TCP termination, regionalization, and security policy enforcement for reliable, low-latency traffic flow.
- Introduce packet sampling and telemetry to improve visibility into customer traffic, routing decisions, and policy enforcement.

InterSystems Corporation

Developer Support Engineer

Cambridge, MA

Jul 2023 – Nov 2025

- Diagnosed networking and kernel security issues affecting mission-critical applications.
- Built an ObjectScript performance-tracing API for CPU cycles, network connections, database accesses, and function calls; modified the C compiler to insert instrumentation hooks during compilation.

Siemens

Software Development Intern

Princeton, NJ

Jun 2022 – Aug 2022

- Prototyped a modular Zero Trust extension for 5G core services on Free5GC using Go and C++; supported 100K+ devices with less than 1% performance overhead.

Brown University

Research Assistant

Providence, RI

Jan 2021 – May 2023

- Built a Node.js syscall-filtering tool using dynamic analysis, reducing exploit potential by 95% with 0-2% overhead.
- Developed distributed QUIC fuzz testing that found bugs in Meta and Cloudflare implementations; benchmarked QUIC against TCP, observing up to 20% faster performance for smaller objects.

Lahore University of Management Sciences

Research Assistant

Lahore, Pakistan

Jan 2019 – May 2020

- Analyzed mobile video bottlenecks: memory pressure reduced frame rates by up to 80%; kernel memory management and disk I/O caused frame drops of up to 40%.
- Coauthored web-browsing paper; related video research: Coal Not Diamonds.

PROJECTS

tinyOS-rs | Rust, RISC-V, QEMU Built a 32-bit OS in `no_std` Rust with Sv32 paging, process scheduling, system calls, VirtIO drivers, a tar filesystem, a shell, and a TCP/IP stack.

Kernel-level network monitoring | eBPF, C++ Built packet inspection across Ethernet, IP, and TCP, with service-level CPU utilization.

Static taint analysis | LLVM, Rust Implemented a compiler pass to identify information leakage in Rust applications.

EDUCATION

Brown University — Sc.M. in Computer Science; GPA: 4.0/4.0

May 2023

Lahore University of Management Sciences — BS in Computer Science; Distinction

May 2020

TECHNICAL SKILLS

Languages: C, C++, Rust, Python, Go, JavaScript

Systems: Linux, Bash, Docker, eBPF, LLVM, x86, RISC-V, microservices, MySQL

Areas: TCP/IP, QUIC, Zero Trust, distributed systems, compiler instrumentation, program analysis, fuzz testing

PUBLICATIONS

Extending 5G services with Zero Trust security pillars: a modular approach. IEEE/ACS AICCSA, 2022.

Mobile web browsing under memory pressure. ACM SIGCOMM Computer Communication Review, 2020.