

Muhammad Ahmed Villa Khan

A Mid-Level Backend Engineer with 8+ years of experience in full-stack development, system architecture, and cross-functional leadership. Currently working remotely for a US-based company while also advising school ERP modernization projects. Strong expertise in .NET Core, Node.js, SQL, hardware-software integration, and multi-platform systems across education, e-commerce, and smart vending domains.



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WORK EXPERIENCE

Happy Digital LLC – Miami, FL

Software Engineer II (Remote)

August 2023 – Present

- Working as part of BrainCrop's international development stream to deliver ERP solutions for smart vending machines and NGOs.
- Architected and deployed a .NET Core-based ERP for smart vending machines across the US and Iceland, reducing inventory management time by 40%.
- Deployed and configured vending machine integrations (JOFEMAR, TCN) across 50+ machines, enabling real-time ERP sync for inventory, sales tracking, and remote configuration.
- Spearheaded and maintained a Node.js + MongoDB mobile backend, enabling live item reservations, coupon systems, and e-wallet usage across 50+ machines.
- Collaborated in cross-functional teams of UI/UX designers, backend engineers, and frontend developers in delivering enterprise platforms on time.
- Launched a Scholarship Portal and NGO ERP platform, used by 10K+ users across South Asia.

BrainCrop Solutions – Karachi, Pakistan

Team Lead / .NET Developer / Software Engineer II

March 2020 – Present

- Led development of a WooCommerce multisite platform with 12+ subdomains for groceries, laundry, and pet stores; each with isolated dashboards and static content.
- Built a Node.js-based data sync service integrating SQL Server, MongoDB, PostgreSQL, and Firebase from remote stores into a centralized cloud database, reducing manual data entry by 80%.
- Engineered *SchoolWare*: a reusable ERP product implemented in 5+ schools, supporting RFID attendance, HR, finance, and student management modules that come with three platforms: i) ERP Portal, ii) Parent Portal and iii) Admission Portal.
- Architected a plug-and-play module system that allowed 70% code reuse across institutions, reducing deployment time by over 60%.
- Facilitated school-specific customizations (e.g., grading policies, term structure) without affecting shared modules, reducing client-side errors by 80%.

.NET Developer / Software Engineer I

October 2016 – March 2020

- Built a Smart School ERP with 15+ integrated modules including staff evaluation, cafeteria billing, and academic tracking.
- Structured RFID-based Gate & Class Attendance with real-time validation and reporting; cutting manual entry efforts by 75%.
- Rolled out a parent portal with real-time alerts for attendance, exams, and fee reminders via SMS/email.
- Crafted complex reporting dashboards in SAP Crystal Reports, enabling administrative staff to track student progress, teacher attendance, and timetable efficiency; boosting report generation speed by 3x.

EDUCATION

DHA Suffa University – Karachi, Pakistan

Bachelors of Science in Computer Science

Sep 2012-Jun 2016

SKILLS

- Languages & Backend: C#, .NET Core, ASP.NET MVC, Entity Framework, Dapper, SQL, JavaScript (Node.js), TypeScript
- Front End: HTML5, CSS3, Razor Pages, JavaScript, jQuery, AJAX
- Database & Data Handling: SQL Server, PostgreSQL, SQLite, MongoDB, Firebase, SSIS
- DevOps & CI/CD: Docker, Git, GitHub Actions (basic), IIS, Windows Services, Linux, AWS (EC2), NGINX (basic), Azure (basic)
- Tools & Reporting: SAP Crystal Reports, Postman, Swagger, Visual Studio, VS Code
- Concepts: REST APIs, Modular Monoliths, Microservices (WIP), Machine Protocol Integration, SOLID Principles, Clean Architecture, Repository Pattern, Unit of Work