

Bilal Fawad

Full Stack Developer

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TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, Java, Python, C++

Frontend Development: React, Next.js, HTML5, CSS3, State Management, React Native, Framer Motion, Tailwind CSS

Backend Development: Node.js, Next.js, MySQL, REST APIs, WebSockets, Microservices architecture, Middleware

Databases & Caching: MySQL, MongoDB, Database Design, Query Optimization, GraphQL

Cloud: AWS (EC2, S3), Git, CI/CD, Nginx, Apache, Docker, Run pod

Data Science: Python, Pandas, Matplotlib, NumPy, Statistical Analysis, Data Pre-processing

Other: Linux, HTML, Matlab, C#, Unity3d, scikit, C++, Microsoft Office, SDLC, Agile

PROFESSIONAL EXPERIENCE

Co-Founder, [VDECOMA](#) 

01/2026 – Present

- Architected and developed a web-based 3D space customization platform enabling users to convert floor plans and product images into immersive, interactive 3D environments.
- Built real-time object placement, movement, and arrangement tools, allowing users to design interiors intuitively without professional 3D software.
- Designed and implemented an AI-powered asset pipeline to transform vendor product images into reusable, optimized 3D assets for virtual spaces.
- Developed a vendor onboarding workflow and analytics dashboard, enabling suppliers to upload products, track engagement (views, saves, try-ons), and monitor conversion insights.
- Integrated modern full-stack technologies including Next.js, React, 3D rendering engines, APIs, and cloud services to ensure scalability, performance, and maintainability.
- Developed and containerized AI models using Docker, deploying them via serverless infrastructure to support efficient CI/CD and cost-effective scaling.
- Collaborating closely with vendors and end users to validate product-market fit, rapidly iterating features based on real-world feedback.
- Leading product vision, technical architecture, and cross-functional decision-making as part of the founding team.

Lecturer in Computer Science and IT, [North Hertfordshire College](#) 

09/2025 – Present
Stevenage, Hertfordshire

- Deliver Level 3 BTEC and T Level courses, equipping learners with industry-ready technical and professional skills.
- *Collaborate closely with senior management to optimise operational workflows and design innovative, learner-focused solutions.*
- Apply storytelling and data-driven techniques to communicate insights on learner engagement, performance, and success metrics.

- Play a key role in shaping the academic journey of students across BTEC/OCR Level 3, Esports, Access to HE, and T Level programmes.

Data Engineer Intern, [PTCL Official](#)

09/2021 – 12/2021

- Assisted in designing and managing data pipelines for large datasets using Teradata and Oracle databases.
- Supported ETL processes to consolidate data from multiple sources for enhanced reporting and analytics.
- Wrote and optimized SQL queries, improving data retrieval efficiency for business-critical applications.
- Collaborated with senior engineers to troubleshoot and enhance ETL workflows, increasing overall system reliability.

PROJECTS

National Disaster Management Dashboard

11/2025 – 12/2025

- Developed the MVP of a national-scale AI monitoring platform aggregating social media, news, and sensor data for real-time disaster detection.
- Built backend APIs for event classification, severity scoring, geo-location extraction, and alert routing.
- Implemented multilingual NLP workflows (English & Urdu) for structured incident summaries.
- Designed a real-time dashboard with maps, alerts, and severity indicators for emergency response teams.
- Integrated automated workflows to validate and forward critical alerts to relevant authorities.

Restaurant Management System

2022 – 2022

- Designed and developed a desktop-based Restaurant Management System using Java and JavaFX to streamline restaurant operations.
- Implemented a structured SQL database to manage menus, orders, billing, and transaction records with data integrity.
- Built an intuitive user interface focused on usability for non-technical staff.
- Integrated end-to-end workflows for order processing and billing management.
- Utilized GitHub for version control, managing feature updates and maintaining clean, trackable code changes.
- Delivered a production-ready solution tailored to client requirements for a Germany-based business.

Ricochet Robots Game

01/2021 – 03/2021

- Developed a Ricochet Robot-style board game using Java and JavaFX with grid-based movement mechanics.
- Implemented a minimal custom game engine to handle collision detection, boundary checks, and ricochet-style movement logic.
- Simulated robot movement across a 2D grid where pieces continue moving until colliding with walls or other robots.
- Structured game logic using modular classes to separate rendering, movement rules, and collision handling.
- Built an interactive UI in JavaFX to visualize the board, robots, and real-time movement updates.
- Applied object-oriented programming principles to ensure maintainable and extensible game architecture.

EDUCATION

Master's In Computer Science, *University of Hertfordshire*

09/2022 – 10/2024
Hatfield,
Hertfordshire

Bachelor's In Software Engineering,
Foundation University Islamabad

09/2018 –
06/2022
Islamabad,
Pakistan