

Muhammad Bilal | Senior Full Stack Engineer

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SUMMARY

A highly skilled Lead Full Stack Engineer with 6+ years of experience in building scalable and efficient web and mobile applications. Specializing in full-stack development, including Blockchain and AI/LLM integrations, with a proven track record of delivering high-performance solutions across a variety of sectors, including finance, healthcare, and e-commerce. Expertise in building multi-chain DApps (ETH, ARB, BSC) and integrating AI-driven systems for data transparency and enhanced decision-making. Proficient in using modern frameworks and libraries like React.js, Next.js, Node.js, Express.js, Nest.js, MongoDB, PostgreSQL, and mobile-first technologies like React Native. Experienced in cloud infrastructure (AWS, DigitalOcean), CI/CD pipelines, and optimizing system performance through Redis caching and other advanced techniques. Skilled in mentoring teams, ensuring code quality, and delivering end-to-end solutions that align with business goals.

SKILLS

Frontend: React, React Native (Expo & CLI), Next.js, JavaScript, TypeScript, Redux Toolkit, Zustand, React Query, TailwindCSS, MaterialUI, Framer Motion, Figma

Backend: Node.js, Express.js, Nest.js, MongoDB, Supabase, Clerk, PostgreSQL, Firebase, AWS (EC2, Lambda, S3, RDS, Amplify), Docker, RabbitMQ, Redis

Web3 and Blockchain: Smart Contracts, Solidity (BSC, ERC-20, BEP-20), Web3.js, Etherscan API, MetaMask, WalletConnect, Coinbase

AI/LLM Integrations: OpenAI, Gemini (Voice synthesis, conversational AI). ElevenLabs (voice cloning), TTS, STT, Livekit SDK(audio/video)

APIs: RESTful APIs (axios, fetch), GraphQL, WebSockets, CI/CD, JIRA/GitHub workflows, Swagger, storybook, Postman,

Soft Skills: Team Leadership, Agile Methodology, Mentorship, Remote Collaboration, Adaptability, Time management

EXPERIENCE

Senior Consultant Full Stack Engineer | Systems Limited | November 2025 – Present

- Engineered robust and scalable applications using cutting-edge technologies such as React Native (Expo & CLI), Next.js, Redux Toolkit, React Query, Zustand, TailwindCSS, and Material-UI. Focused on building user-friendly interfaces with secure JWT-based authentication, OAuth 2.0, and Clerk to provide seamless user management and experience.
- Architected and deployed high-performance backend systems, leveraging Node.js, Express.js, Nest.js, and Supabase for scalable, high-availability solutions. Enhanced data flow ensured seamless integration with the frontend, and developed real-time data management systems.
- Led the development and maintenance of secure, high-availability RESTful APIs and GraphQL endpoints, facilitating real-time data synchronization and improving platform functionality across multiple interfaces.
- Optimized and managed multiple databases (MongoDB, PostgreSQL, Firebase, Supabase), ensuring efficient data flow, storage, and retrieval to support real-time AI-driven insights and platform performance.
- Integrated AWS cloud services (S3 for file storage, Lambda for serverless computing, EC2 for scalable infrastructure) to ensure highly reliable, elastic, and cost-efficient AI-powered applications, maintaining optimal performance under varying loads.
- Developed AI-powered conversational systems utilizing OpenAI and Gemini for advanced natural language processing (NLP) and AI personas, enabling real-time user interactions and personalized experiences.
- Enhanced application interaction with integrated TTS (Text-to-Speech) and STS (Speech-to-Text) capabilities, powered by LiveKit SDK for real-time voice and video communication. Leveraged ElevenLabs for high-quality voice synthesis and cloning, while Gemini provided advanced voice synthesis and video analysis.
- Improved application performance by implementing caching mechanisms, stale data management, and request throttling, resulting in faster load times, reduced latency, and smoother user interactions.
- Collaborated closely with external custody providers to ensure seamless integrations with third-party systems, focusing on compliance with project requirements and maintaining the highest standards of security and performance.
- Actively contributed to Agile sprints, with hands-on involvement in sprint planning, backlog refinement, and the implementation of best coding practices. Played a key role in code reviews and ensuring the quality of smart contract development and testing.
- Led the architecture and development of the commerce platform, ensuring seamless integration of e-commerce functionalities, optimizing payment gateway integrations, and building scalable solutions to support growth.
- Mentored junior and mid-level developers, fostering a collaborative learning environment and continuously improving the team's coding practices and technical skills.
- Designed end-to-end solutions that align with business goals, enabling the organization to scale AI-driven applications efficiently while ensuring a secure, high-performance user experience.

Lead Full Stack Engineer | Alt-launch | April 2025 – Oct 2025 (Contract)

- Led the development of AI-driven web and mobile applications, guiding 6+ developers and streamlining milestone delivery through Agile workflows and CI/CD pipelines.

- Worked with high-level tech stacks like React Native (Expo & CLI), Next.js, Redux Toolkit (RKT), React Query, Zustand, TailwindCSS, Material-UI (MUI), and more to build robust and scalable applications, integrating JWT-based authentication, OAuth 2.0, and Clerk for secure user management and seamless user experiences.
- Designed and deployed scalable backend solutions using Node.js, Express.js, Nest.js, Supabase, and Clerk, ensuring high availability and seamless integration with frontend systems for authentication and real-time data management.
- Developed and maintained secure RESTful APIs and GraphQL endpoints, enabling real-time data synchronization and enhancing platform functionality.
- Managed databases using MongoDB, PostgreSQL, Firebase, and Supabase, optimizing data flow and storage to support AI-driven insights and real-time updates.
- Implemented cloud services such as AWS S3 for file storage, AWS Lambda for serverless computing, and AWS EC2 for scalable infrastructure, ensuring the smooth performance of AI-powered applications.
- Developed AI-powered conversational systems using OpenAI and Gemini for natural language processing (NLP) and AI personas for real-time interactions.
- Integrated TTS (Text-to-Speech) and STS (Speech-to-Text) capabilities with LiveKit SDK for real-time voice and video interactions, leveraging ElevenLabs for high-quality voice synthesis and cloning and Gemini for advanced voice synthesis and video analysis.
- Enhanced application performance by introducing caching mechanisms, stale data management, and throttling batch requests, ensuring faster load times and smoother user interactions.
- Collaborated closely with custody providers to ensure smooth integrations and compliance with project requirements.
- Contributed to Agile sprints, played an active role in sprint planning and backlog refinement, and ensured high-quality code through PR reviews and comprehensive smart contract testing.

Senior Software Engineer | Ultra Mobile | Remote | April 2023 - March 2025

- Architected and developed a robust platform providing MVNO as a service, enabling seamless mobile network experiences for users leveraging MERN stack (MongoDB, ExpressJS, ReactJS, NodeJS)
- Built a cross-platform mobile app using React Native and Expo CLI, reducing development time by 30% while ensuring high performance across both Android and iOS.
- Designed and implemented secure, decentralized applications (DApps) on Ethereum and Binance Smart Chain (BSC), leveraging smart contracts for transparent transactions and reducing operational costs. Integrated Web3 technologies to ensure seamless wallet interactions and enabled tokenization of digital assets using ERC-20 standards.
- Developed an NFT marketplace where users could buy, sell, and trade unique digital collectibles based on A Kid Called Beast. Integrated smart contracts on Ethereum for secure, transparent transactions and IPFS for decentralized storage of metadata and assets.
- Implemented ERC-721 tokens for non-fungible tokens (NFTs), allowing unique digital items (e.g., artwork, avatars) to be minted, bought, and sold on the platform.
- Integrated wallet solutions like MetaMask and WalletConnect for secure user authentication and seamless transaction handling within the NFT marketplace.
- Developed and maintained RESTful APIs and GraphQL endpoints to support real-time data synchronization and enhance user interaction with the platform.
- Reduced technical debt in legacy systems by modernizing codebases and integrating Redux Toolkit, ensuring efficient state management for a responsive UI.
- Spearheaded bug fixes and performance improvements in an Agile environment, using Jira for task management and sprint planning, and delivering projects on time.
- Developed and launched new features, including real-time data processing and AI-powered analytics using AWS Lambda and AWS EC2 for scalable deployments.
- Led the adoption of UI frameworks like Material UI, TailwindCSS, and Ant Design to ensure responsive and user-friendly designs.
- Utilized Docker for containerized deployments, ensuring consistent environments across all stages of development and production.
- Ensured version control and collaboration using Git, GitHub, and Bitbucket, maintaining high code quality and smooth team workflows.
- Mentored junior developers in best practices, encouraging the adoption of Mocha, Jest for testing, and CI/CD pipelines for streamlined deployment and automation.
- Collaborated on integrating cloud services like AWS S3 for storage, Netlify and Vercel for hosting, and DigitalOcean for scalable infrastructure solutions.
- Contributed to sprint reviews, retrospectives, and backlog refinement, aligning the team with project goals while maintaining a high level of collaboration and transparency.

Senior Full Stack Engineer | 12thSpring | Lahore | February 2021 - April 2023

- Led a team of engineers, providing mentorship and support for various services and applications across different platforms, ensuring alignment with business goals and delivering high-quality solutions.
- Mentored interns and junior developers, fostering a collaborative environment and helping them develop their skills by guiding them through project requirements, architecture design, and coding standards.
- Successfully contributed to winning new projects by leveraging technical expertise in React Native, AWS, Node.js, and Blockchain technologies, ensuring clients' needs were met with scalable and efficient solutions.
- Designed and developed dynamic and responsive front-end applications using React.js, Next.js, Vue.js, and React Native, enhancing user interaction and delivering smooth, performant experiences across web and mobile platforms.
- Architected and maintained scalable backend systems using Node.js, Express.js, Nest.js, and cloud databases such as MongoDB, MySQL, and Firebase, ensuring high performance, security, and seamless data management.
- Integrated AWS services like EC2, S3, Lambda, and API Gateway for scalable infrastructure and serverless application deployment, reducing infrastructure costs and improving system scalability.
- Worked closely with clients and internal teams to translate business requirements into innovative technical solutions, ensuring projects met both functional and performance expectations.

- Continuously evaluated new technologies and development methodologies, incorporating React Native for mobile app development, AWS for cloud infrastructure, and GraphQL for optimized data fetching to stay ahead of industry trends.
- Spearheaded the development of multi-channel applications, utilizing React Native for cross-platform mobile development and integrating AWS S3 for storage and AWS CloudFront for content delivery optimization.
- Collaborated with product owners to ensure that features were implemented according to user stories and requirements, contributing to sprint planning, backlog refinement, and successful project deliveries.
- Integrated CI/CD pipelines using GitHub Actions, Docker, and AWS CodePipeline, automating testing and deployment processes to improve release efficiency and reduce the risk of errors.
- Conducted technical and architectural design reviews, leading discussions on system optimizations, performance tuning, and technology stack improvements to align with evolving business objectives.
- Utilized AWS RDS for managed database solutions and Elastic Beanstalk for easy deployment and scaling of applications, ensuring high availability and disaster recovery.
- Drove the adoption of Agile practices within the team, ensuring active participation in daily stand-ups, sprint reviews, and retrospectives to keep projects on track and improve overall team performance.

Senior Full Stack Developer | Mk Groups | Remote | November 2018 – January 2021

- Developed end-to-end solutions for various industries, from e-commerce platforms and financial tools to social networking apps, utilizing a wide range of technologies such as React.js, Node.js, Next.js, and React Native.
- Built and optimized cross-platform mobile applications for startups, leveraging React Native and Expo CLI, reducing development time by 40% while delivering seamless experiences across iOS and Android devices.
- Designed and deployed scalable backend solutions using Node.js, Express.js, and MongoDB, ensuring robust, secure, and efficient systems that supported millions of users.
- Integrated third-party APIs, payment gateways, and AI-powered features for clients in sectors like e-commerce, healthcare, and finance, improving functionality and user engagement by 30%.
- Delivered customized SaaS platforms for large enterprises, enabling efficient internal operations and enhancing client experiences with intuitive, responsive UI/UX built with Material UI, TailwindCSS, and Framer Motion.
- Developed AI-powered tools and applications for clients in the healthcare and fintech industries, integrating machine learning models, predictive analytics, and data visualizations to streamline decision-making processes.
- Optimized web and mobile app performance by implementing state management with Redux, React Query, and Firebase, ensuring smooth, real-time user experiences.
- Built and maintained cloud-based infrastructures on AWS, using services like AWS EC2, S3, Lambda, and RDS for scalable storage, computing, and data management, supporting applications with high traffic and data requirements.
- Actively participated in Agile workflows, contributing to sprint planning, backlog refinement, and daily stand-ups, ensuring projects were delivered on time and within scope.
- Worked closely with clients to translate business needs into technical solutions, consistently achieving client satisfaction through clear communication and collaboration.

PROJECTS

A Kid Called Beast - NFT Marketplace | [Link](#)

- Developed and launched a secure NFT marketplace for A Kid Called Beast, allowing users to buy, sell, and trade unique digital collectibles, leveraging Ethereum and IPFS for transparent and immutable transactions.
- Integrated smart contracts using Solidity to handle transactions, ownership verification, and royalties, ensuring secure, automated exchanges within the marketplace.
- Designed the user interface using React.js and Material UI, creating a seamless and visually engaging experience for both buyers and sellers.
- Implemented Web3.js to enable wallet connectivity and MetaMask integration, allowing users to easily connect their wallets and interact with the platform.
- Integrated IPFS to host NFT metadata and media files, ensuring that all digital assets are stored in a decentralized and immutable way.
- Optimized platform performance, ensuring smooth transaction processing, fast loading times, and real-time updates for users.
- Worked closely with the client to ensure the marketplace was aligned with branding, user experience, and security requirements, creating a unique and user-friendly environment for NFT enthusiasts.

Patrimore - Financial Advisory and Planning Platform | [Link](#)

- Developed and launched an intuitive financial advisory platform that offers personalized financial planning and investment advice, integrating machine learning algorithms for portfolio optimization.
- Designed and implemented a robust backend system using Node.js and MongoDB, enabling efficient data management and real-time tracking of user financial data and investment portfolios.

- Integrated third-party APIs to provide real-time market data, financial news, and insights, allowing users to make informed decisions based on the latest financial trends.
- Created a seamless, user-friendly UI using React.js and TailwindCSS, offering clients easy access to financial tools, reports, and performance metrics in a clear and visually appealing format.
- Developed secure authentication systems using JWT and OAuth 2.0, ensuring data privacy and secure access to sensitive financial information for registered users.
- Integrated financial calculators and tools (e.g., retirement planning, tax estimation) that allow users to plan and track their financial goals with precision and accuracy.
- Leveraged AWS S3 for secure document storage and AWS Lambda for serverless computing, improving scalability and reducing infrastructure costs.
- Ensured compliance with financial regulations, providing users with a platform that adheres to industry standards and best practices for financial security.
- Worked closely with financial experts and stakeholders to ensure the platform met user needs, continuously gathering feedback to improve user experience and functionality.

OnSense.AI - AI-Driven Analytics Platform | [Link](#)

- Developed and launched an AI-driven platform that enhances repair and diagnostics processes across industries such as appliances, HVAC, electronics, and industrial equipment.
- Designed and implemented a robust backend system using Node.js and MongoDB, enabling efficient data management and real-time tracking of repair activities and equipment status.
- Integrated third-party APIs and internal data sources to provide real-time diagnostics, parts compatibility, and repair insights, allowing technicians to make informed decisions during service calls.
- Created a seamless, user-friendly UI using React.js and TailwindCSS, offering technicians and support agents easy access to repair tools, manuals, and performance metrics in a clear and visually appealing format.
- Developed secure authentication systems using JWT and OAuth 2.0, ensuring data privacy and secure access to sensitive repair information for registered users.
- Integrated AI-powered features such as FieldSense for root cause analysis, RemoteSense for remote diagnostics, and DocsSense for intelligent document parsing, streamlining the repair process and reducing downtime.
- Leveraged AWS S3 for secure document storage and AWS Lambda for serverless computing, improving scalability and reducing infrastructure costs.
- Implemented machine learning models for predictive maintenance, enabling proactive identification of potential equipment failures and reducing service costs.
- Collaborated closely with OEMs and stakeholders to ensure the platform met industry standards and continuously gathering feedback to improve user experience and functionality.

EDUCATION

Bachelor of Science in Computer Engineering | UET Taxila Punjab, Pakistan | 2018