Zakawat Abbas

Software Engineer

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Professional Summary

Software Engineer with 3+ years of experience in full-stack web development, cloud computing, machine learning, and artificial intelligence. Expertise in building scalable serverless applications, optimizing APIs, and deploying ML models into production environments. Proficient in modern JavaScript frameworks (React.js, Next.js, Vue.js), Python, AWS services, and CI/CD pipelines. Proven track record of delivering high-quality software solutions for international clients across real estate, e-commerce, and data science domains.

Education

Oct 2019 – Oct 2023 **Bachelor's Degree in Computer System Engineering**, *NED University of Engineering & Technology*, Karachi, Pakistan

Coursework: Data Structures and Algorithms, Software Engineering, Machine Learning & Artificial Intelligence.

Final Year Project: *Sign Language Recognition App* – Two-way sign language recognition system using React Native, CNN and Flask.

Technical Skills

Languages	Python, JavaScript, SQL
Frontend	React.js, Vue.js, Next.js, Angular.js, React Native, GatsbyJS
Backend	Node.js, Flask, FastAPI, Prisma.js
CSS/Styling	Tailwind CSS, Bootstrap CSS, Sass CSS
Databases	MySQL, MongoDB, PostgreSQL, Firebase, DynamoDB
Cloud & DevOps	AWS, Docker, CI/CD, GitHub Actions, DigitalOcean, Cloudflare
Web Tools	DNS, cPanel, WordPress, Liquid Web
Data Science	Machine Learning, Deep Learning, Data Analysis, Exploratory Data Analysis (EDA)
Data Mining	Beautiful Soup, Selenium
Other Tools	Git, GitLab, Power BI, Postman, VS Code, Telnyx

Professional Experience

May 2025 – Present **Software Engineer**, *CodeBit - Programando Soluções*, United States (Remote)

- Designed and developed serverless applications using AWS Lambda, Python, and Next.js, improving system scalability and performance.
- Built and optimized RESTful APIs and microservices for real-time data exchange and seamless integration.
- Implemented CI/CD pipelines with AWS services and GitHub Actions to automate deployment processes and reduce manual workload.
- Collaborated with data scientists to integrate machine learning models into production environments.
- Enhanced system reliability, performance, and cost efficiency through proactive cloud monitoring and tuning.

Jun 2024 –
Oct 2025
Software Engineer, *H&S Real Estate Pakistan*, Karachi, Pakistan (On-site)
- Developed, maintained, and optimized all company websites to enhance performance, user experience, and brand consistency.
- Designed and implemented responsive, user-centric websites that improved performance and engagement.
- Enhanced website SEO and load speed, strengthening online visibility and lead generation.
- Managed deployment, DNS configuration, and integration tasks for site and email systems.
- Collaborated with marketing and sales teams to ensure consistent brand alignment across all platforms.
- Integrated automation tools and analytics for real-time tracking and performance insights.

Jun 2024 –
Oct 2025
Software Engineer, *Deca Properties*, Karachi, Pakistan (On-site)
- Developed and maintained responsive, SEO-optimized websites using React.js and Next.js.
- Improved website performance, accessibility, and user experience, resulting in higher engagement rates.
- Managed deployment pipelines, DNS configuration, and integration processes for smooth site and email functionality.
- Collaborated with design and marketing teams to ensure UI/UX alignment with business goals.
- Streamlined development workflows and automated maintenance processes for faster delivery.

May 2024 –
May 2025
Frontend Engineer, *Rehani Soko*, United States (Remote, Freelance)
- Built and optimized dynamic front-end interfaces using Vue.js and React.js, improving site performance and user engagement.
- Collaborated with backend teams to integrate APIs and enhance overall application functionality.
- Implemented reusable components and modern UI frameworks to accelerate development cycles.
- Ensured cross-browser compatibility, accessibility, and mobile responsiveness for all projects.
- Delivered pixel-perfect designs aligned with brand and UX requirements.

Dec 2023 –
Jun 2024
Full Stack Developer, *F5-STUDIO*, United States (Remote)
- Developed and deployed full-stack applications using React.js, Next.js, and Node.js, ensuring scalability and performance.
- Built reusable UI components with Tailwind CSS and integrated APIs for seamless data flow between client and server.
- Collaborated with cross-functional teams to enhance UX/UI and optimize website responsiveness.
- Implemented best practices in code optimization, version control, and deployment workflows.

Aug 2022 –
Dec 2023
Software Engineer, *Additech-Sim*, Stuttgart, Germany (Remote, Part-time)
- Designed and developed full-stack applications using Python, JavaScript, and modern frameworks.
- Built and optimized machine learning models for predictive analytics and process automation.
- Collaborated with cross-functional teams to integrate AI functionalities into web applications.
- Implemented data pipelines and APIs for smooth data flow and real-time insights.
- Improved performance, scalability, and reliability of deployed systems through testing and refactoring.

Jan 2022 –
Jun 2022
Data Science Intern, *Additech-Sim*, Stuttgart, Germany (Remote)
- Enhanced an Automatic Machine Learning Model Classifier to improve prediction accuracy and model efficiency.
- Implemented Reinforcement Learning with Particle Swarm Optimization (PSO) for shaft and hub optimization projects.
- Conducted exploratory data analysis (EDA) and feature engineering to refine data quality and model inputs.
- Utilized Python, SQL, and ML libraries for model development, testing, and deployment.
- Supported cross-functional collaboration between AI and engineering teams for solution integration.

Selected Projects

Twitter (X) Clone – MERN stack Twitter clone with intuitive UI, responsive design, and user-centered optimizations using Tailwind CSS.

Technologies: MongoDB, Express.js, React.js, Node.js, Tailwind CSS

Repository: github.com/Zakawat-Abbas/twitter-clone

Bazar – React Firebase shopping site with user-friendly UI and accessibility features. Integrated with Fake Store API and Stripe payment.

Technologies: React.js, Firebase, Stripe API

Repository: github.com/Zakawat-Abbas/bazar

CarHub – Next.js website utilizing Rapid Car API for finding, booking, and renting cars with seamless experience.

Technologies: Next.js, Rapid Car API

Repository: github.com/Zakawat-Abbas/carhub

Dream Destination – React Native Firebase app with destinations categorized by interest, travel buddy finder, and more.

Technologies: React Native, Firebase

Repository: github.com/Zakawat-Abbas/Dream-Destination

Sign Language Recognition App (Final Year Project) – React Native app for two-way sign language recognition to help deaf community communication using CNN and Flask.

Technologies: React Native, Python, CNN, Flask

Repository: github.com/Zakawat-Abbas/SignLanguageProject

GSM Arena Q&A – Q&A system using GSM Arena data to assist users with mobile specs inquiries.

Technologies: Node.js, Google DialogFlow

Repository: github.com/Zakawat-Abbas/GSMareana-QA

Speech To Text – Implementation of Google Speech to Text API for accurate speech-to-text conversion.

Technologies: Python, Google Speech to Text API

Repository: github.com/Zakawat-Abbas

Digital Meter Text Extraction – CNN-based text extraction from digital meters for enhanced data retrieval.

Technologies: Python, CNN

Repository: github.com/Zakawat-Abbas

Gsmarena.com Scraping – Web scraper for GSMarena mobile specs with data parsing and trend analysis.

Technologies: Python, Beautiful Soup

Repository: github.com/Zakawat-Abbas

Adventure Works Sales Analysis – Sales data analysis using Power BI for business intelligence.

Technologies: Power BI

Repository: github.com/Zakawat-Abbas

Portfolio: zakawat-abbas-portfolio.vercel.app

Publications

2024   **Zakwat Abbas**, et al. (2024). *Voice of Hearing and Speech Impaired People.* 2024 International Conference on Communication, Computer Sciences and Engineering (IC3SE), Amity University, Greater Noida, India (May 9-11, 2024). Published in IEEE Xplore. DOI: 10.1109/IC3SE62002.2024.10593248

IEEE Xplore: ieeexplore.ieee.org/document/10593248

ResearchGate: researchgate.net/publication/382494916

IEEE Author Profile: ieeexplore.ieee.org/author/637173697943911

Certificates & Training

2024 **Certificate of Presentation** – International Conference on Communication, Computer Sciences and Engineering (IC3SE-2024), Amity University Uttar Pradesh, Greater Noida Campus, India (May 9-11, 2024). Presented paper: "Voice of Hearing and Speech Impaired People"

2022 **Build AR Powered E-commerce Site Bootcamp** – Open Weaver

2022 **Python Programming | Numpy & Pandas Bootcamp** – Open Weaver

2022 **Data Science Internship Completion** – ADDITECH-SIM

Additional Information

Languages English (Fluent), Urdu (Native)

Interests Web Development, Machine Learning, Data Science, AI Applications

Location Karachi, Sindh, Pakistan