Abhishek Bhattarai

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Software Engineer

Full-stack Software Engineer with 3+ years building developer tools, learning platforms, and data-driven systems for 10M+ users. Experienced in Python/Node.js backend, React/Next.js frontend, and designing APIs and ETL/data pipelines, marketing analytics integrations, and conversion tracking systems (GTM, sGTM, GA, Meta Pixel, CAPI). Skilled at shipping fast, leading small teams, and delivering end-to-end technical solutions. Familiar with AWS/GCP and workflow automation.

WORK EXPERIENCE

Programiz • Lalitpur • 07/2022 - Present

Senior Software Engineer

Thousands of learners completed real-world projects with portfolio outcomes. Core tools became central to Programiz's growth, leading to increase in platform engagement and 2x developer efficiency.

- Developed a full marketing data pipeline integrating Google Tag Manager (GTM), Server-side GTM (sGTM), Google Analytics, Meta Pixel, and Facebook CAPI — enabling accurate conversion tracking, third-party ad integrations, and data-driven marketing decisions. Increased event accuracy by 50% and improved attribution across paid marketing channels.
- Spearheaded the end-to-end development of the **Code Visualizer** (100K+ monthly users), leading UI/UX, architecture decisions, and building **Python backend execution flows and state-tracking services**.
- Designed **scalable guided project environments**, enabling live validation, portfolio builds, and real-world learning experiences.
- Built and maintained **REST APIs and Python/Node.js microservices** supporting Lessons, Challenges, and Quizzes, handling millions of requests per month with high reliability.
- Owned full SDLC across multiple products, using **CI/CD pipelines, DevOps practices, and workflow automation**, shortening release cycles and improving delivery speed.
- Led code reviews, mentored junior engineers, and enforced **performance, security, and data quality standards** across engineering teams.
- Collaborated with **marketing and growth teams** to design event schemas, debug ad platform issues, and improve **cross-platform conversion accuracy** across **Google Ads** and **Meta Ads** ecosystems.

Software Engineer

Impacts: Enabled efficient in-browser coding for thousands of learners. Increased learner retention through structured lesson flows. Streamlined content team workflows and accelerated product iteration.

- Built the **Playground IDE**, a multi-language, browser-based coding environment with real-time execution, used by 1M+ monthly learners.
- Designed and implemented the **Content Workflow System (CWS)**, reducing content release cycles from **14 days to 2 days** (~7× improvement).
- Delivered structured lesson modules and **learning flows** to improve retention through consistent UX and clear progression.
- Optimized REST APIs and frontend systems for **scalability**, supporting thousands of daily learning sessions.
- Implemented **CI/CD pipelines and deployment automation**, improving reliability across environments.
- Partnered with product and design teams to ensure technical solutions aligned with **user experience and business goals**.

SKILLS

Frontend: HTML / CSS, JavaScript, Next.js, React, TypeScript, User Interface

Backend/ Data: Documentation, Node.js, Python, REST API design, Workflow Automation

System Design & Architecture: Content workflow systems, Execution flow systems, Real-time interactive tools (IDEs)

Databases: MySQL, PostgreSQL

Data/ Marketing Analytics: Conversion Tracking, ETL, Facebook CAPI (Conversions API), Google Analytics, Google Tag Manager (GTM), Meta Pixel, Server-side GTM (sGTM)

EDUCATION

BSc (HONS) in Cyber Security and Ethical Hacking

Coventry University • GPA: 3.6+ • 09/2019 - 09/2022

PROJECTS

Analytics Tracking & Marketing Data Pipeline • 11/2025

Programiz

- Led the design and implementation of a **server-side event pipeline** for GTM/sGTM with Meta Pixel and Facebook CAPI.
- Standardized event schemas, integrated **third-party ad platforms**, and ensured **accurate, privacy-compliant conversion tracking**.
- Enabled **data-driven marketing decisions**, improved attribution accuracy, and supported **paid marketing optimization**.

Code Visualizer • 07/2025

Programiz

- Built a **line-by-line Python & C code visualizer**, designing backend services, React/TypeScript frontend, and CI/CD deployment.
- Solved complex problems around **debugger state extraction, variable tracking, and recursive call visualization**.
- Tool now serves 100K+ monthly users, central to Programiz learning platform.

DSA Visualizer • 07/2025

Programiz

- Extended the Code Visualizer to visualize **Data Structures & Algorithms**, supporting step-by-step learning.
- Designed optimized UI layouts and animation flows for **intuitive algorithm visualization**.

Guided Project Environment • 05/2025

Programiz

- Contributed to system design for **scalable, real-world project environments** with automatic validation and portfolio support.
- Enabled thousands of learners to complete projects with measurable success outcomes.

Playground (Browser-based IDE) • 06/2024

Programiz

- Built a **multi-language browser IDE** enabling real-time code execution for 1M+ monthly learners.
- Developed backend architecture and **scalable APIs** to enhance hands-on coding and platform engagement.

CERTIFICATIONS

Applied Data Science Labs • 08/2023 - 08/2023

World Quant University

VOLUNTEERING & LEADERSHIP

Edulift Organization • 12/2025 - 12/2025

Resource Person/ Trainer

Led an interactive training for 18 government schoolteachers, teaching how to create engaging digital lessons, use quizzes for instant feedback, and apply Google Classroom for announcements and assignments.