Asmit Ghosh

Full-Stack Software Engineer — Web Automation Specialist — Blockchain Developer

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Professional Summary

Results-driven Software Engineer with 1+ years of experience in full-stack development, web automation, and blockchain technologies. Proven track record of building scalable applications, optimizing system performance, and processing 14,000+ data points through automated pipelines. Expertise in Python, JavaScript, React, and distributed systems with strong problem-solving abilities and agile development experience.

Technical Skills

Programming Languages: Python, JavaScript, TypeScript, SQL, Solidity, HTML5, CSS3
Backend Development: FastAPI, Node.js, Express.js, Django, Flask, RESTful APIs, GraphQL
Frontend Development: React.js, Next.js, Angular, Tailwind CSS, Bootstrap, Responsive Design
Cloud & DevOps: AWS (Lambda, API Gateway, S3, DynamoDB, SNS, CloudWatch), Docker, GitHub Actions, CI/CD Pipelines
Async & Messaging Systems: Celery, Redis, WebSockets, Message Queues, Real-time Processing
Databases: PostgreSQL, MongoDB, MySQL, DynamoDB, Firebase, Database Design, Query Optimization
Automation & Integration: Selenium WebDriver, BeautifulSoup, Freshworks API, Third-party API Integration
Blockchain & Web3: Ethereum, Smart Contracts, Web3.js, Solidity, IPFS
Data Handling: Pandas, NumPy, Data Mining, ETL Pipelines, Encryption

Professional Experience

Blockchain & Web Automation Development Intern January 2025 – May 2025
Aaizel International Technologies Pvt Ltd *Gurugram, India*

- Engineered and deployed high-performance web crawlers for 70+ websites using Python, Selenium WebDriver, and BeautifulSoup, successfully extracting and processing over 14,000 articles with 90% accuracy
- Architected scalable automation framework for 118 e-paper platforms, implementing PDF extraction pipelines and authentication bypass mechanisms, reducing manual processing time by 85%
- Developed blockchain data extraction systems for Bitcoin, Ethereum, and Monero networks using Web3.py and specialized APIs, processing 10,000+ transactions
- Built real-time data streaming architecture with WebSockets and RESTful APIs, enabling responsive frontend applications and reducing data latency
- Optimized multi-threaded data processing workflows using Python threading, asyncio, and Celery task queues, achieving improvement in system throughput and reduction in resource consumption

Full-Stack Web Developer Intern November 2023 – April 2024
Perfectice *Johns Creek, GA, USA (Remote)*

- Led complete migration of enterprise website from Angular to React.js, implementing modern React hooks, context API, and component architecture, serving 10,000+ monthly active users
- Enhanced website performance by 35% through code splitting, lazy loading, image optimization, and responsive design implementation using modern CSS Grid and Flexbox
- Collaborated with UX/UI designers and product managers in agile development environment, delivering features 25% faster while maintaining 98% cross-browser compatibility
- Integrated third-party APIs including payment gateways, analytics tools, and social media platforms, improving user engagement by 20%
- Implemented modern ES6+ JavaScript features, TypeScript for type safety, and established coding standards that reduced bug reports by 40%

Key Technical Projects

Smart Agriculture IoT System | *ESP8266, Computer Vision, LoRaWAN, ZigBee, Edge Computing, Python* 2023

- Architected cost-effective IoT agricultural monitoring system using ESP8266 microcontrollers, reducing hardware costs compared to commercial solutions
- Implemented computer vision-based pest detection using OpenCV and TensorFlow Lite on edge devices, achieving 85% accuracy in real-time pest identification
- Developed multi-sensor network with soil temperature, moisture, and pH monitoring using I2C and SPI protocols for precise agricultural data collection

- Built wireless communication infrastructure using LoRaWAN for long-range data transmission and ZigBee mesh networking for local sensor coordination
- Created edge computing pipeline for real-time data processing and decision-making, reducing cloud dependency by 70% and improving response time to 200ms
- Designed Python-based dashboard for farmers with real-time alerts, historical data visualization, and automated irrigation recommendations
- Technologies: ESP8266, Arduino IDE, OpenCV, TensorFlow Lite, LoRaWAN, ZigBee, Python, MQTT, Edge Computing

Serverless CRM Integration Platform | *Python, FastAPI, AWS Lambda, API Gateway, Redis, Freshworks API* 2025

- Built backend APIs using FastAPI and AWS Lambda for CRM event handling, webhook parsing, and lead assignment
- Integrated Freshworks CRM API for creating contacts, syncing tickets, and triggering automation flows
- Used Redis and Celery to implement a background job queue for delayed notifications and async lead scoring
- Monitored metrics and errors with AWS CloudWatch and set up retry mechanisms for failed jobs
- Technologies: FastAPI, Lambda, Redis, Celery, API Gateway, CloudWatch, Freshworks API

Chatbot API + Telephony Flow Engine | *Python, FastAPI, Ozonetel API, WebSockets, PostgreSQL, CI/CD* 2025

- Developed APIs for chatbot-to-call-center workflows using Ozonetel's cloud telephony platform
- Built a modular FastAPI backend that connects conversation states with call queue logic in real time
- Stored conversational state and agent logs in PostgreSQL with optimized queries and indexing
- Implemented CI/CD with GitHub Actions and Docker; wrote integration tests with Pytest to ensure coverage
- Technologies: Python, FastAPI, WebSockets, PostgreSQL, Ozonetel API, Pytest, Docker, CI/CD

FAQ Automation and Messaging Pipeline | *Python, AWS Lambda, DynamoDB, SNS, RESTful APIs* 2024

- Created a Lambda-based pipeline to automate answering of user FAQs pulled from third-party CMS and updated periodically
- Used AWS SNS for pushing real-time updates to subscribed chatbot services across multiple regions
- Designed REST API endpoints for query parsing and response generation using lightweight NLP modules
- Stored questions, answers, and frequency scores in DynamoDB with TTL for outdated data expiration
- Technologies: AWS Lambda, SNS, DynamoDB, REST, Python, NLP

Education

Bachelor of Technology in Computer Science and Engineering August 2021 – July 2025

VIT University *Vellore, India*

- Relevant Coursework: Embedded Systems, Data Structures and Algorithms, Database Management Systems, Software Engineering, Operating Systems, Computer Networks, Machine Learning, IoT Systems, Cryptography and Network Security
- Key Academic Project: Smart Agriculture IoT System - Led development of comprehensive agricultural monitoring system using ESP8266 microcontrollers, computer vision, and wireless sensor networks

Achievements & Certifications

Microsoft Certified: Azure Data Fundamentals (2023) - Cloud data services and analytics
Google Advanced Data Analytics Certificate (2023) - Statistical analysis and machine learning

Additional Information

Languages: English (Fluent), Hindi (Native), Bengali (Native)