

# ABUBAKAR SHAMSUDEEN

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## PROFESSIONAL SUMMARY

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Mechatronics Engineering student with demonstrated expertise in on-chain data analysis, Python scripting, and embedded systems. Active contributor to Web3/DeFi ecosystem with live analytics dashboards and automated monitoring tools. Skilled in SQL-based blockchain analysis, real-time API integration, and technical QA. Passionate about building in public and systematic problem-solving.

## TECHNICAL SKILLS

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### Programming Languages

Python (Intermediate) • SQL/DuneSQL (Advanced) • Arduino/C++ (Intermediate) • JavaScript (Beginner)

### On-Chain Analysis & Blockchain

Ethereum fundamentals • Dune Analytics (complex query design & dashboard creation) • ERC-20 token analysis • Whale tracking & balance monitoring • Aave protocol analytics • Etherscan API V2 integration • Smart contract interaction & testing • Real-time event monitoring

### Data Engineering & APIs

Web3.py scripting • ETL pipeline design • Real-time data streaming • RESTful API integration • NumPy/Pandas data processing • Large-scale dataset handling (230M+ variables)

### Embedded Systems & Control

ESP32/Arduino programming • Sensor integration (LDR, Ultrasonic, temperature) • Real-time motor control (PWM) • BLE connectivity • Laplace domain analysis • Signal processing & Fourier transforms • Z-transforms & discrete-time systems

### Additional Expertise

Reinforcement Learning (Dueling DQN, Prioritized Replay) • Circuit design & simulation (Proteus) • Technical QA & debugging • Git/GitHub • Fluent English communication

## PROFESSIONAL EXPERIENCE

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### Freelance QA Tester, DeFi & Web3 Projects

#### March 2025 – Present

- Tested DeFi applications (Plaza Finance, Mango Network, Manta Network) with focus on smart contract interaction and wallet functionality
- Identified UI/UX bugs using browser DevTools; created detailed reproduction steps and verified fixes post-deployment
- Utilized MetaMask, testnets (Sepolia), and transaction analysis to verify contract behavior

### Student, Hands-On Laboratory Work

## January 2025 – Present

- Completed advanced coursework: Signals & Systems (Laplace transforms, convolution, Fourier analysis)
- Executed hands-on projects: circuit design (Proteus), sensor integration (LM35, ultrasonic, 555 timer), motor control systems
- Practiced systematic debugging and error logging methodology

## FEATURED PROJECTS

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### Dune Analytics Dashboard (On-Chain Analytics)

#### SQL, Ethereum, Data Visualization | Live & Public

- Designed complex DuneSQL queries: ERC-20 transfer tracking, whale balance leaderboards (UNION ALL joins), Aave liquidation events
- Published live dashboard for real-time protocol analytics accessible to community

### Whale Alert Monitoring Suite

#### Python, Web3.py, Etherscan API V2, Telegram | Deployed

- Built real-time blockchain monitor detecting large token transfers via Etherscan API
- Implemented Aave USDC health monitor tracking collateral ratios and liquidation risk
- Deployed alert bots with Telegram integration for live notifications

### Token Analytics CLI Tool

#### Python, On-Chain Data | Open Source

- Command-line utility for extracting and analyzing ERC-20 holder distributions and transaction flows

### Universal Trading Bot (V4.5)

#### Python, TensorFlow, Reinforcement Learning | Active Development

- Developed Dueling Transformer Double DQN with Prioritized Experience Replay for multi-asset crypto trading
- Best performance: +0.6% average return, +21.61% alpha vs. buy-and-hold, -0.93% maximum drawdown
- Distributed training across Google Colab, Kaggle, Lightning AI with session management and buffer persistence

### Robotics & Embedded Systems

- ESP32 Bluetooth-controlled robotic car & arm: real-time motor control via PWM, multi-sensor fusion (LDR, ultrasonic), 50ms response latency
- Automated security system: environmental sensor-driven relay control for adaptive lighting and HVAC
- LED blinking circuit: Proteus simulation and implementation with cost optimization

## EDUCATION

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### Bachelor of Engineering in Mechatronics Engineering

Federal University of Agriculture, Abeokuta, Nigeria

Expected Graduation: January 2028 | Current Status: Active coursework in Signals & Systems, embedded systems, control theory

### High School Diploma

CTY Model College, Ibadan, Oyo State | September 2017 – September 2023

## CERTIFICATIONS

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- Data Analyst (HP Certification)
- Career Essentials in Generative AI (LinkedIn Learning)
- Health and Safety Education (HSE Certification)

## AWARDS & RECOGNITION

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- Best Graduating Student (High School, 2023)
- Best Student (2nd Year University, 2025)

## PUBLIC PRESENCE & LEARNING APPROACH

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- Ship daily technical milestones on X/Twitter (@Isahbless79) | Building in public mindset
- Maintain systematic error log ('Graveyard') tracking bugs, root causes, and fixes | 17+ documented issues
- GitHub repositories documenting projects, code quality, and collaborative development

## LANGUAGES

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English (Fluent, Written & Verbal) • Spanish (Basic)