

OSAMA ABU HAMDAN

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PROFESSIONAL SUMMARY

Backend Engineer and PhD in Computer Networking with over 6 years of experience in the architecture and deployment of large-scale distributed systems. I combine deep academic expertise in Software-Defined Networking (SDN) with a broad professional focus on Backend Engineering and Federated Learning. I have a proven track record of delivering production-grade platforms and high-traffic RESTful APIs for global enterprises and high-growth startups, specializing in Java, Python, and network-aware distributed computing.

PROFESSIONAL EXPERIENCE

Safwa Academy Delaware, USA (Remote)
Backend Engineer 2026 - Present

- Architected and deployed scalable cloud infrastructure and backend systems for a K-12 educational platform.
- Engineered custom learning tools, LMS integrations, and automated administrative workflows, reducing operational overhead by 40% while strictly adhering to data security protocols.
- Worked with an engineering team to implement reliable video conferencing APIs and assessment platforms.

Wird.app Amman, Jordan (Remote)
Backend Engineer 2022 - 2025

- Led a team of 10 developers to build and scale a high-performance activity tracking platform serving 1,000+ DAUs.
- Designed and developed a robust backend using Django REST Framework, PostgreSQL, and Redis caching, ensuring efficient data processing and fast query response times.
- Architected scalable APIs and optimized database performance to support real-time activity tracking, complex leaderboards, and automated performance reporting.

Abacus Cloud and Edge Systems (ACES Lab) Arlington, TX, USA
Research Engineer 2021 - 2026

- Architected backend infrastructure for Federated Learning frameworks, optimizing data synchronization protocols and network communication to reduce sync time by 47% across distributed nodes.
- Designed and implemented SDN-based adaptive routing algorithms for Wide Area Networks (WANs), improving system QoS by 30% and enhancing high-bandwidth streaming quality by 54%.

John Wiley & Sons Amman, Jordan
Backend Engineer 2018 - 2021

- Engineered and maintained mission-critical RESTful APIs and core backend components in Java to support large-scale, high-traffic publishing platforms.
- Developed and optimized search functionality for high-impact journals, scaling the backend to serve over 100,000 daily visitors and process 4M+ articles with sub-second latency.
- Collaborated with Solution Architects to diagnose, troubleshoot, and resolve complex production and server-side issues in high-availability environments.

EDUCATION

University of Texas at Arlington Arlington, TX
Ph.D. in Computer Science and Engineering | GPA: 4.0 Aug 2023 - April 2026

University of Nevada - Reno Reno, NV
Master of Science in Computer Engineering | GPA: 3.9 Aug 2021 - Aug 2023

University of Jordan Amman, Jordan
Bachelor of Science in Computer Engineering | GPA: 3.2 Sep 2015 - Jun 2020

SKILLS

Languages: Java, Python, SQL, Bash

Frameworks: Spring, Django, Flask, Django REST Framework, REST APIs, GraphQL, gRPC

Machine Learning: PyTorch, Keras, NumPy, Deep Learning, Federated Learning

Databases: PostgreSQL, MySQL, MongoDB, Redis

Infrastructure: Linux/Unix, Git, Docker, Nginx, Maven, CI/CD pipelines

Testing & Tools: Postman, Selenium, BeautifulSoup, JIRA, Agile/Scrum methodologies