

Waddah Daker

Software Engineer | Backend & Full-Stack | Cloud Infrastructure

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EDUCATION

Concordia University

Montreal, QC

Bachelor of Computer Science, GPA: 3.6/4.3

Sep 2023 – Present

– Relevant coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, Databases, Information Retrieval, Computer Vision, Web Development

American University of Sharjah

Sharjah, UAE

Bachelor of Computer Science, GPA: 3.9/4.0

Sep 2022 – Apr 2023

CERTIFICATIONS

AWS Certified Solutions Architect – Associate | *Amazon Web Services*

2026

Full-Stack Web Development | *Udemy – HTML, CSS, JS, Node, React, PostgreSQL, Web3*

2025

EXPERIENCE

Part-Time Software Developer

May 2026 – Present

AW Design (AWD Decoration Design & Fit Out L.L.C.)

Remote

– Architected and shipped a production bilingual (EN/AR) site on a Next.js/TypeScript monorepo with 15+ Sanity CMS schemas, powering ~5 live client-facing pages deployed on Vercel

– Engineered a full i18n system (**next-intl**, dynamic **[lang]**/ routing) enabling seamless RTL/LTR content switching across the entire site for a global client base

– Extending the platform with a companion AWS-native page (S3, CloudFront, Route 53), applying cloud infrastructure patterns beyond the core Vercel stack

– **Tools:** Next.js, TypeScript, Sanity CMS, Vercel

Architectural Design Intern

Jun 2019 – Sep 2020 (Summers)

Artware

Damascus, Syria

– Modeled and delivered 3D renders for 5+ concurrent design projects using SketchUp and AutoCAD, maintaining a structured digital asset library and validating design accuracy through on-site inspections

PROJECTS

Harmful Algal Bloom RL Simulation (AlgaeMind) | [GitHub](#) | [DevPost](#)

2026

– Engineered a 3-agent RL simulation (heuristic, RL, Claude API) modeling 5+ per-cell environmental variables on a customizable grid, benchmarking intervention costs against real-world algal bloom remediation records

– Built a full-stack system integrating a React/TypeScript frontend with a Python FastAPI backend, delivering real-time agent visualization and environmental state modeling

– **Tools:** React, TypeScript, Python, FastAPI, PyTorch

Reliable Data Transfer Protocol over UDP | [GitHub](#)

2026

– Engineered a reliable data-transfer protocol from scratch in Java over raw UDP (packet serialization, alternating-bit sequencing, timeout-driven retransmission), achieving 100% file transfer success across all 4 test scenarios

– Stress-tested the protocol under 4 adversarial network conditions (100ms/1100ms delay, 50% client/server packet loss) using Linux network namespaces and **tc netem** fault injection

– **Tools:** Java, UDP Sockets, Linux

Concordia Thesis Scraping and Clustering | [GitHub](#)

2025

– Built and deployed a 5-stage IR pipeline (crawler, PDF extractor, tokenizer, TF-IDF, K-Means) over Concordia's Spectrum thesis repository, with retry logic and robots.txt compliance for production-grade crawling

– Engineered a 5,000-feature TF-IDF vocabulary and clustered at $k=\{2, 10, 20\}$, automatically surfacing groupings from broad disciplines down to niche subfields like robotics and patent law

– **Tools:** Python, BeautifulSoup, Pandas, NumPy, Scikit-Learn

Reuters SPIMI Indexer and Search Engine | [GitHub](#)

2025

– Engineered and benchmarked 3 search-indexing architectures (Naïve, SPIMI, Compressed) over 21,578 Reuters documents, achieving sub-millisecond (<1ms) query latency with configurable tokenization

– Proved SPIMI's scalability advantage over naïve in-memory indexing at scale and applied lossy compression to shrink index size while preserving query performance

– **Tools:** Python, IR Algorithms

BookNotes Web Application | [GitHub](#)

2025

– Shipped a full-stack reading tracker with authentication, CRUD, and Open Library API integration, reducing redundant external API calls via an LRU cache

– Hardened the app with ISBN-10/13 checksum validation and parameterized SQL to eliminate injection risk, plus debounced lookups and dynamic SVG cover previews for a responsive UX

– **Tools:** Node.js, Express, EJS, PostgreSQL, JavaScript, CSS

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, SQL, C, C++, HTML/CSS

Frameworks & Libraries: React, Next.js, Node.js, Express, FastAPI, Pandas, NumPy, PyTorch, Scikit-Learn

Tools & Technologies: Git, Docker, AWS, Vercel, Sanity CMS, Linux, PostgreSQL, MySQL, Vite, Postman, Wireshark

Concepts: REST APIs, CI/CD, Cloud Infrastructure, Information Retrieval, Machine Learning, Reinforcement Learning, Database Design, Networking