

AHMAD ZEID

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EDUCATION

American University of Beirut – 3.85 GPA

Bachelor of Science in Computer Science, Minor in Statistics

– Awarded the Full-Ride MEPI-TLU Scholarship.

Beirut, Lebanon

Aug. 2024 – June 2027

University of Pennsylvania

Bachelor of Engineering in Computer Science, Study Abroad Semester

Philadelphia, USA

Jan. 2026 – May 2026

RELEVANT COURSEWORK

Data Structures & Algorithms; Systems Programming; Computer Architecture & Design; Probability & Statistics; Linear Algebra; Applied Machine Learning; Internet & Web Systems

EXPERIENCE

Research Assistant

AUB, Dr. Jawad Alami

– Studied healthcare workers' trust and reliance on an AI-based decision support tool that transcribes speech and converts it into structured notes for documentation in the electronic health record (EHR) system.

Oct. 2025 – Dec. 2025

Beirut, Lebanon

SELECTED PROJECTS

Cloud-Based Search Engine (*Java, AWS EC2, Distributed Systems*)

Apr. 2026 – May 2026

- Built a full-scale web search engine from scratch as part of a 4-person team for CIS 5550 (Internet & Web Systems) at UPenn; deployed on Amazon EC2 under a live subdomain.
- Integrated a multi-threaded web crawler, distributed key-value store, Flame-based analytics engine, and a TF/IDF + PageRank ranking pipeline crawling 1M+ pages, with a responsive frontend optimized for sub-second query response.

Campus Image Style Transfer (*Generative Models, Computer Vision*)

Apr. 2026 – May 2026

- Developed a conditional image-to-image translation model for CIS 4190 (Applied ML) at UPenn to transform campus photos across weather and time-of-day conditions (sunny/rainy/night), using a custom dataset of geolocated campus images.
- Experimented with diffusion-based and GAN-based architectures; evaluated models using LPIPS perceptual similarity and condition classification accuracy.

Client Request Triage Dashboard (*React, TypeScript, Node/Express, PostgreSQL*)

Jul. 2026

- Designed and built a full-stack, real-time triage dashboard for tracking incoming client requests, from database schema through production deployment; used Server-Sent Events to keep multiple sessions in sync without polling and optimistic-concurrency version checks to surface genuine edit conflicts.
- Built a keyboard-first UI (vim-style navigation, fuzzy-matched command palette, live request-log inspection) with React 19/TypeScript/TanStack Query on the frontend and Express/Zod/PostgreSQL on the backend, tested with Vitest/Supertest, and independently shipped the deployment as infrastructure-as-code (Neon, Render, Vercel).

Energy Analytics & Anomaly Detection Platform (*Python, ML Forecasting, Anomaly Detection*)

Jul. 2026

- Built an end-to-end energy analytics platform in Python that pulls live data from an industrial metering API, engineers forecast-ready features, and ships automated weekly reports across multiple sites; runs 5 candidate ML models per meter with rolling-origin backtesting and empirical confidence intervals.
- Built a three-source anomaly detection system (coverage gaps, statistical deviation, forecast residuals) with duplicate-flag suppression and expectation-based site ranking, backed by a 288-test suite and CI.

SKILLS

Programming: Python, Java, C, C++, SQL, HTML, CSS, JavaScript

Theory/Foundations: Data Structures & Algorithms; Systems & Computer Architecture; Object-Oriented Programming; Machine Learning; Deep Learning; Computer Vision; Distributed Systems

Tools: Git, GitHub, Linux, GDB, Spark, Jupyter, Valgrind, NumPy, Pandas, Matplotlib, PyTorch, Scikit-learn, AWS EC2, BeautifulSoup