

Mahmoud Chaer

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EDUCATION

Bachelor of Engineering in Computer and Communication Engineering

American University of Beirut

Aug 2022 – Jun 2026

Dean's Honor List (all semesters)

RELEVANT COURSEWORK

Machine Learning, AI in Industry, Agentic Systems, Data Structures and Algorithms, Discrete Structures, Probability and Random Variables, Linear Algebra, Numerical Computing, Signals and Systems, Software Engineering, Database Systems, Computer Organization.

TECHNICAL TOOLBOX

- **Languages:** Python, C++, C, SQL, Bash
- **AI/ML:** PyTorch, TensorFlow, Scikit-learn, Transformer Architectures (Attention Mechanisms), Fine-Tuning, Quantization, BERT, LSTM, OpenAI API, LangChain, MLflow, Hugging Face, Vector Databases, Information Retrieval, Semantic Search, Retrieval-Augmented Generation (RAG), AI Agents
- **MLOps/Deployment:** Docker, Docker Compose, CI/CD, Flask, FastAPI, REST APIs, Microservices,
- **Model Serving**
- **Cloud/Infra:** Microsoft Azure, Azure ML, Azure OpenAI, AWS EC2, Nginx, Linux, Prometheus, Grafana
- **Databases:** PostgreSQL, MySQL, SQLite, Redis
- **Tools:** Git, GitHub, Perforce, Bitbucket, Jira, Postman, VS Code, Debugging, Performance Optimization

EXPERIENCE

Software Engineer (Part-Time)

Sep 2025 – Present

Murex

Working within the MX.3 Viewer Team to design and optimize performance-critical C++ backend components, improving memory efficiency, scalability, and internal debugging and data visualization tooling.

Software Engineering Intern

Jun 2025 – Aug 2025

Murex

Optimized high-performance C++ modules in a large-scale financial platform. Reduced runtime latency, improved system scalability, and refactored legacy components for maintainability.

Python Programming Teaching Assistant

Aug 2023 – Dec 2023, Aug 2024 – May 2025

AUB

Assisted 100+ students in Python programming and algorithmic thinking for EECE 230. Led lab sessions, debugged complex student code, and designed structured programming exercises.

IT Support Helper

Jun 2023 – Oct 2023

AUB IT Department

Provided technical support to over 7,400 users across AUB and AUBMC. Diagnosed OS-level issues, deployed institution-wide software, and supported system reliability.

RELEVANT PROJECTS

[SEE MORE HERE](#) →

DeepMed — Privacy-first no-code AI platform enabling doctors to train, evaluate, and deploy models on medical data securely. Designed CPU-optimized training pipelines and deployment architecture. [GitHub](#)

HolidAI — AI-powered travel agent generating complete trip plans using multi-agent orchestration and retrieval-augmented generation pipelines. [GitHub](#)

Eleva — eleva.today: Collaborative course scheduling platform used by 200+ AUB students. Built timetable matching and optimization logic. [GitHub](#)

AI Career Advisor — NLP-based system analyzing resumes and recommending jobs, projects, and courses using semantic embeddings and ranking models. [GitHub](#)

Image Classification AI — Flask/FastAPI application deploying a fine-tuned ResNet18 image classifier for uploaded images. [GitHub](#)