

Ali Mohsen

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SKILLS

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

Machine Learning: TensorFlow, Scikit-learn, NumPy, PyTorch

Web Development: React, Node.js, Django, Tailwind, MUI, shadcn, TanStack

Cloud & Tools: AWS, Git, Linux, CUDA

WORK EXPERIENCE

Ciatek IT & Software Solutions, Lebanon

Jun 2025 - Aug 2025

Frontend Developer (Internship)

- Developed responsive web applications using React, Typescript, Tailwind, and shadcn.
- Implemented frontend features and user interfaces using modern component-based design practices

EDUCATION

American University of Beirut

Aug 2023 - May 2026

B.S. in Computer Science, Minor in Mathematics

GPA: 3.59/4

Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Computer Organization & Design, Software Engineering, Database Systems, Operating Systems, Machine Learning, GPU Computing, Optimization and Non-linear Programming

PROJECT WORK & RESEARCH

- **Comparative Study of Optimization Algorithms in Training Deep Neural Networks** 2025-2026
 - Conducted systematic evaluation of optimization algorithms (SGD, Adam, RMSprop) for training deep neural networks
 - Analyzed convergence behavior, learning rate sensitivity, and generalization performance on image classification datasets (FMNIST, CIFAR-10)
- **Brain Tumor Segmentation using U-Net** 2026
 - Designed and trained U-Net architecture for medical image segmentation on LGG MRI dataset
 - Achieved ~ 0.82 Dice score and ~ 0.78 IoU on test set through loss tuning and augmentation
- **Sparse Lower Triangular Matrix Solver (CUDA)** 2026
 - Implemented parallel SpTRSV algorithm on GPU using CUDA
 - Achieved up to $\sim 500\times$ speedup over CPU baseline through CUDA parallelization and kernel optimization
- **Vertex Cover Optimization via LP Relaxation** 2026
 - Formulated the Vertex Cover problem as an Integer Program and solved its Linear Programming relaxation
 - Applied rounding techniques to obtain approximate solutions and analyzed integrality gap
- **Botanica: ML-Powered Crop Recommendation System** 2025
 - Collaborated in a team to develop a machine learning model recommending optimal crops using GPS, soil nutrient data (N,P,K,pH), and weather analysis with 200m precision
 - Contributed to building a full-stack web application delivering crop recommendations and insights

CERTIFICATES

- AWS Certified Cloud Practitioner Aug 2025
- Neural Networks and Deep Learning (*Coursera*)

TECHNICAL LEADERSHIP & INVOLVEMENT

- Software Development Team Member at GDG - AUB (2025-2026)
- CMPS 208: Computing for Business Lab Assistant (2025)
- CMPS Representative at IEEE - AUB Student Branch (2025-2026)
- Junior Editor and Writer for Science & Technology Arabic Section at AUB Outlook (2025-2026)