

Ali Mohsen

✉ ali2moh.04@gmail.com | 📞 +961 76 683 027
🌐 github.com/amoh909 | 🔗 linkedin.com/in/alimohsen5

PROFESSIONAL PROFILE

Computer Science graduate from the American University of Beirut with a Mathematics minor and strong foundations in software engineering, machine learning, and computational systems. Skilled in full-stack development using React, TypeScript, and Spring Boot, with hands-on experience in ML systems, GPU computing, and algorithm optimization. Developed scalable software solutions, CUDA-accelerated applications, and deep learning models with a focus on efficient, reliable, and maintainable engineering.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript/TypeScript, SQL
Backend & Web Development: Spring Boot, React, Node.js, Django, Tailwind, MUI, shaden, TanStack
Machine Learning & AI: PyTorch, TensorFlow, Scikit-learn, NumPy, n8n — CNNs, segmentation models, optimization
Systems & GPU Computing: CUDA, parallel computing, GPU optimization, sparse matrix solvers
Cloud & Tools: AWS, Git, Linux, REST APIs

WORK EXPERIENCE

Ciatek IT & Software Solutions, Lebanon Jun 2025 - Aug 2025
Frontend Developer (Internship)

- Developed and maintained responsive web interfaces using React, TypeScript, Tailwind CSS, and shaden.
- Built reusable components and implemented frontend features following modern component-based architecture.
- Collaborated with developers to integrate UI components and improve application usability.

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

PROJECTS & RESEARCH

- **Botanica: ML-Powered Crop Recommendation System** 2025 — [Link](#)
 - 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
- **Brain Tumor Segmentation using U-Net** 2026 — [Link](#)
 - 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 — [Link](#)
 - Implemented a CUDA-based parallel sparse triangular solver (SpTRSV) using GPU kernels and memory optimization techniques
 - Achieved up to ~500× speedup over CPU baseline through parallel execution and kernel optimization
- **Comparative Study of Optimization Algorithms in Training Deep Neural Networks** 2025–2026 — [Link](#)
 - 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)
- **Vertex Cover Optimization via LP Relaxation** 2026 — [Link](#)
 - 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

CERTIFICATES & AWARDS

- AWS Certified Cloud Practitioner Aug 2025
- MOS Championship Lebanon 2026 — 1st Place in Excel, University Category 2026
- Neural Networks and Deep Learning — DeepLearning.AI (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)