



# AHMAD ALZEIN

Computer Vision and AI Engineer

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LinkedIn

## Education

2021 - 2023

GRENOBLE INP - PHELMA

- Biomedical engineering degree

2017 - 2021

BEIRUT ARAB UNIVERSITY

- BSC Biomedical engineering
- GPA: 3 / 4.0

## Skills

- AI & ML** – Deep Learning (CNNs, Transformers, GANs), Model Optimization (Quantization, Pruning, Distillation)
- Computer Vision & Biometrics** – Object Detection, Segmentation, Tracking, Depth Estimation, Facial Recognition & Robustness
- Robotics & 3D Vision** – SLAM, Structure-from-Motion, 3D Reconstruction, ROS, AirSim
- MLOps & Deployment** – MLflow, DVC, Docker, AWS (S3, SageMaker), GitHub Actions, Embedded AI (Jetson, CUDA, Linux)
- Programming** – Python, MATLAB, Bash, C++, Git
- Version Control:** Git, GitLab, Bitbucket

## Languages

English (Fluent)  
French (Fluent)  
Arabic (Native language)

## Work Experience

Computer Vision and AI Engineer

Aug 2023 - Aug 2025

VERACYTE Inc, Marseille

- Developed and deployed deep learning models for cancer grade detection using Whole Slide Images (WSIs) and transcriptomic data.
- Automated large-scale image quality control pipelines to filter artifacts and standardize histopathology datasets (>20,000 slides processed in parallel).
- Built a cloud-based pipeline (AWS, Docker, GPUs) for preprocessing and inference across multiple sites.
- Enhanced model robustness and reliability, addressing domain shifts and variability in clinical data.
- Contributed to a multimodal framework combining histology and genomics using prototype-based Transformers.
- Applied optimization and deployment strategies (scalable pipelines, model compression awareness) to ensure reproducibility and security in production.

Computer Vision and AI Engineer

Jan 25 - Present

Remote , Independent R&D

- Designed a drone-based pipeline for real-time object detection, 3D reconstruction, and autonomous navigation (SLAM-based).
- Constructed datasets using AirSim simulations and real-world UAV data, applying annotation and augmentation strategies for robust training.
- Explored model optimization (quantization FP16/INT8, pruning) for deployment on Jetson Xavier/Nano.
- Validated planning strategies in ROS/Gazebo for coverage path planning and multi-UAV exploration.
- Extended the project with a facial recognition module to study the robustness of biometrics under low-resolution conditions.

Computer Vision & AI Intern

Feb 2023 - Jul 2023

Stellantis / Institut des Sciences du Mouvement

Worked on a human-machine interaction study exploring alternative control interfaces in vehicles. My role focused on analyzing human gestures and motion in real-world testing conditions, using multimodal tools and computer vision techniques:

- Designed and conducted psychophysical experiments to evaluate the perception of interface shapes and contact zones.
- Filmed user interactions using a GoPro camera, capturing natural movement patterns in experimental settings.
- Applied MediaPipe to perform pose estimation and extract key hand and body landmarks for gesture tracking.
- Developed a vision pipeline to analyze hand motions and their relationship with user engagement and intuitiveness of interface design.

Signal Processing Intern

Sep 2022 - Jan 2023

GIPSA-LAB

- Conducted surface electromyography (sEMG) signal processing to enhance muscle activity analysis in hand rehabilitation.
- Developed advanced source separation techniques to isolate muscle-specific activity, minimizing cross-talk interference.
- Recorded and synchronized sEMG signals with finger force measurements using the Biomechanics platform at GIPSA-lab.