



ABID ALI

Computer Vision Engineer | AI Models Deployment | Deep Learning Optimization

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Summary

Computer Vision Engineer focused on building and optimizing deep learning systems for video understanding, multimodal AI, and real-world perception. I bring doctoral-level expertise across object detection and tracking, pose estimation, anomaly detection, emotion analysis, and vision-language modeling, with hands-on experience turning research into practical pipelines for complex environments. My work includes top-tier publications at ICCV, WACV, AVSS, and BMVC, along with collaborations spanning healthcare, aerospace, and multimodal learning. I'm now targeting senior applied AI and computer vision roles where I can help develop reliable, high-performance vision systems from research through deployment.

Experience

University of Luxembourg (CVI2, SNT)	Luxembourg
Postdoctoral Researcher	2025 - Present
- Improved 6-DOF video pose estimation by 3.3x by designing spatiotemporal adapters with less than 5% additional parameters. - Improved pose estimation performance by reducing synthetic-data pose score by 2.5x and lowering synthetic-data error by 31% using zero-shot domain adaptation techniques. - Research to production: Developed real-time structured perception pipelines integrating foundation models with PnP solvers. - Collaborated with AI researchers and aerospace experts at Zero-G lab to apply models in aerospace applications. - Partnered with INRIA to integrate LLMs like Qwen and LLava-Next for enhanced video analysis contextual understanding in ASD. - Investigating VLMs for low-level language (Luxembourgish) learning via image-text pair data. - Investigated multimodality foundation models for identity-based deepfake detection with POST Luxembourg. - Designed multimodality models with 3D CNN and Transformer networks to capture complex video context across Skeleton, RGB, and text data.	
INRIA (University Côte d'Azur)	France
PhD Researcher in AI and Computer Vision	2021 - 2025
- Contrastive learning for videos: Investigated SigLip, CLIP, and X-CLIP architectures for contrastive video learning, accurately identifying unusual autistic behaviors in children. - PEFT modeling: Achieved 90% reduction in training time by developing AM Flow adapters, enabling 10x faster convergence with SOTA performance on SSv2 and Kinetics-400 benchmarks. - Scaled input resolution 120x with AdaTAD++ PEFT architecture, setting a new benchmark in long-duration video understanding. - Built large-scale dataset: Built 300-hour multimodal dataset with clinicians, advancing research on autistic children's behaviors. - Engineering: Integrated YOLO, ByteTrack, SAM, and TAM pipelines for precise human and object detection in behavioral analysis studies. - Worked on vision-language models to enhance recognition and anticipation of multimodal actions.	
Idiap Research Institute	Switzerland
Visiting Researcher	2023 - 2024
- Improved autism severity estimation accuracy by 30% through developing weakly supervised video learning framework. - Self-supervised learning: Pre-training models with SimCLR, MAE, VideoMAE, and significantly reducing the need for annotations and improving generalization in long medical behavior videos.	
Sejong University	South Korea
Research Assistant	2018 - 2020
- Investigated 3DCNNs for object detection and tracking in videos. - Improved user accessibility by 15% by creating a low-cost real-time eye-tracking system integrating object detection at Sejong University. - Developed a multi-stream CNN for 3D gaze estimation from unconstrained face images, enhancing accuracy in computer vision research. - Designed and implemented human detection and tracking algorithms for a smart city surveillance project in Korea. - Investigated and optimized Faster R-CNN fire detection on real-world videos, improving detection reliability in safety systems.	

Skills

Group Title: C/C++ · Python · PyTorch · TensorFlow · Keras · SLURM · AWS · Linux · OpenCV · NumPy · Pandas · Scikit-learn · Git · MATLAB

Group Title: Deep Learning · Machine Learning · AI · Computer Vision · Sequential Modeling · LLMs · Foundation Models · Academic Research

Education

University Cote d'Azur	France
PhD in Computer Science and AI	2020 - 2024
Thesis title: Video analysis using deep neural networks : an application for autism, Thesis advisor: François Bremond, francois.bremond@inria.fr.	
Sejong University	South Korea
M.S. in Computer Engineering	2018 - 2020
3D Gaze Estimation from Natural Face Images using a Dual Channel CNN Network	
COMSATS University Islamabad	Pakistan
B.S. in Electrical Engineering	2008 - 2012
Real-time orange crop disease detection using computer vision techniques and implementation on embedded system.	

Side Projects

Agricultural Crop Classification from Satellite Images	Nice, France
	2022 - 2022
Developed computer vision and AI algorithms to predict crop classes and optimal vegetable options using Sentinel-2 imagery.	
Achieved 3rd place in a hackathon for an agricultural crop classification project using satellite images.	
3IA Côte d'Azur Industry Hackathon with Caranx Medical	Nice, France
	2023 - 2023
Collaborated with fellow PhD candidates for a week, tackling industry-selected problems in small groups, providing a rewarding experience. The project focused on medical image segmentation with missing annotations.	
Presented our work at the WAICF - Global AI Festival in Cannes 2023.	

Publications

List of Publications
<https://scholar.google.com/citations?user=iehHhVQAAAAJ&hl=en>

Certifications

Computer Vision Nanodegree — Udacity
Deep Learning Specialization — Coursera

Languages

English Native ●●●●● French Beginner ●●●●●