ADRIAN LLOPART MAURIN

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https://adrianllopart.github.io/portfolio

Product-oriented AI engineer with a proven track record of developing and implementing cutting-edge deep learning models on-cloud and on-device. Passionate about the intersection between AI and Robotics.

PROFESSIONAL EXPERIENCE

CEO / co-Founder *Copenhagen, Denmark*
MederiAI *Feb 2024 - Present*
Applying Deep Learning models for fast and accurate anomaly and disease detection in the gastrointestinal tract using footage from endoscopic capsules. Leading a team of full-stack engineers and overseeing the development of the product: UI/UX, frontend, backend, AWS infrastructure and AI pipelines.

Senior Machine Learning Engineer *Copenhagen, Denmark*
Jabra GN *Aug 2024 - Present*
Building, training and evaluating multimodal deep learning models and pipelines for videobars for meeting rooms. Currently working on:

- Building the MLOps stack from scratch.
- Multimodal real-time on-device pipelines for visual tracking and speech diarization.
- Synthetic multimodal data generation and annotation

Senior Machine Learning Researcher *Copenhagen, Denmark*
Veo Technologies *Jan 2021 - May 2024*
Development of production-ready deep learning models to be run on cloud and edge devices. This includes data collection, annotation and processing; model architecting, training, evaluation and optimization for:

- Action recognition and localization.
- 2D/3D Player and ball detection and tracking, from monocular images.
- Advanced match analytics using AI

Senior Artificial Intelligence Algorithms Developer *London, United Kingdom*
Huawei *Jan 2019 - Jan 2021*
Re-implementation and improvement of state-of-the-art methods for Deep Learning in Computer Vision tasks in Tensorflow and Pytorch. These include:

- 3D Human Keypoint Estimation from monocular images
- Object Recognition, Detection and Segmentation.
- Human Action Recognition and Detection.
- Supervision of Intern projects

Supervisor of Master Thesis *Lyngby, Denmark*
Technical University of Denmark (DTU) *Feb 2017/18 - Jul 2017/18*
Supervised several master Thesis, some of which were presented at international conferences:

- Task constrained motion planning for robot manipulators.
- Realtime motion planning for industrial robot arm in dynamic environment.
- Building a Revolute Joint Module for the Fable Robotics System (collab. with ShapeRobotics).
- Obstacle detection and avoidance for indoor mobile robots using Recurrent Neural Networks.
- Transfer learning between Convolutional Neural Networks.

PUBLICATIONS

- **Liftformer: 3D human pose estimation using attention models**,
  ArXiv preprint: *arXiv:2009.00348*, September 2020, UK.
- **Online Semantic Segmentation and Manipulation of Objects in Task Intelligence for Service Robots**, International Conference on Control, Automation, Robotics and Vision (ICARCV), November 18, 2018, Singapore.
- **Semantic mapping and object detection for indoor mobile robots**, Industrial Conference on Robotics and Computer Vision (ICRCV), November 17, 2018, Thailand.
- **Bayesian Convolutional Neural Networks with Variational Inference**,
  ArXiv preprint: *arXiv:1806.05978v5*, November 14, 2018, Denmark.
- **Outlook for navigation-comparing human performance with a robotic solution**, International Conference on Maritime Autonomous Surface Ships (ICMASS), November 8, 2018, South Korea.
- **A Rule-Based Approach for Constrained Motion Control of a Teleoperated Robot Arm in a Dynamic Environment**, The International Conference on Robotics Systems and Automation Engineering (RSAE), October 6, 2018, Spain.
- **Autonomous 3D model generation of unknown objects for dual-manipulator humanoid robots**, IEEE 5th International Conference on Robot Intelligence Technology and Applications (RITA), Dec 14, 2017, South Korea.
- **Generalized Framework for the Parallel Semantic Segmentation of Multiple Objects and Posterior Manipulation**, IEEE International Conference on Robotics and Biomimetics (ROBIO), Dec 6, 2017, Macao.
- **Door and Cabinet Recognition Using Convolutional Neural Nets and Real-time Method Fusion for Handle Detection and Grasping**, IEEE 3rd International Conference on Control, Automation and Robotics (ICCAR), Apr 22, 2017, Japan.

EDUCATION

PhD Student on Robotics and Artificial Intelligence — *Lyngby, Denmark*
Technical University of Denmark (DTU) — *Dec 2015 - Dec 2018*
Automation and Control (AUT) Group
Supervisors: Ole Ravn & Nils A. Andersen

PhD External stay — *Daejeon, South Korea*
Korea Advanced Institute of Science and Technology (KAIST) — *Jan 2017 - Sept 2017*
Robot Intelligence and Technology (RIT) Lab
Supervisor: Jong-Hwan Kim

Master thesis: Teleoperation of Miniaturized Humanoid Robots — *Tokyo, Japan*
University of Tokyo (TU) — *April 2015 - Aug 2015*
User Interface Research Group (Igarashi Lab)
Supervisors: Takeo Igarashi & Daisuke Sakamoto

Master of Science in Automation and Robotics — *Lyngby, Denmark*
Technical University of Denmark (DTU) - Double degree programme — *Sept 2013 - Aug 2015*
Study line: Automation and Robotics

Bachelor and Master of Science in Industrial Engineering — *Barcelona, Spain*
Polytechnical University of Catalonia (UPC) — *Sept 2009 - Aug 2013*
Study line: Automation and Robotics

TECHNICAL SKILLS

AI	Pytorch, Tensorflow, TensorRT, Docker, AWS (ECR, EC2, S3 ...) Kubernetes, NeptuneAI, MLFlow, Encord, HuggingFace
Robotics	OpenCV, ROS, PCL, MoveIt, Open3D
Others	Linux, Python, C/C++, Gstreamer, Github, Elastic, Notion

LINGUISTIC SKILLS

English	Full Professional Proficiency (C2)
Spanish	Native (C2)
Catalan	Native (C2)
German	Conversational (B2)
Danish	Beginner (A2)