

JB Boin

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Ph.D. graduate with an expertise in deep learning, and extensive experience in computer vision, mobile visual search, augmented reality.

EDUCATION

Stanford University, Ph.D., Electrical Engineering	2012-2019
Graduated from the <i>Image, Video and Multimedia Systems</i> research group (advisor: Bernd Girod). GPA: 4.05/4.00	
Stanford University, M.S., Electrical Engineering	2012-2014
École polytechnique (France), B.S.	2009-2012
Multidisciplinary training and specialization in Electrical Engineering. GPA: 4.18/4.00	

WORK EXPERIENCE

CrowdAI (California, USA)	2019 (current)
Machine learning research engineer	2019-2021
Head of Machine Learning	2021 (current)
<ul style="list-style-type: none">Managed a team in charge of building and maintaining the machine learning part of a platform for automatic model training and inferenceImplemented deep learning model architectures and training processes to solve novel tasks (object detection, classification, keypoint detection, instance segmentation)Executed on various customer projects by supporting data preprocessing, model training, predictions and evaluationStayed up-to-date with and synthesized published research, authored a research publication (NeurIPS workshop 2020)	
Google (California, USA)	Jun-Sep 2017
Intern in the Mobile Vision research team	
<ul style="list-style-type: none">Integration and enhancements of existing systems for multi-object tracking	
Stanford University (California, USA)	2013-2019
Teaching assistant, Grader	
STMicroelectronics (France)	Apr-Aug 2012
Intern in a research team specialized in radiation hardened and ultra-low voltage hardware design	
<ul style="list-style-type: none">Elaboration of a custom test protocol to be run on microprocessors for evaluation of their robustness to errors	
Red Tech Consulting (Saudi Arabia)	Jul-Aug 2011
Junior consultant in a telecom consulting company for a project expanding the Saudi Internet network	

RELEVANT PROJECTS

Image descriptor aggregation for Efficient Retrieval (Ph.D. thesis)	2015-2019
Developed a theoretical framework for aggregation and applied insights to real-world retrieval tasks	
Efficient Panorama Database Indexing for Indoor Localization (CBMI 2019)	2018-2019
Developed an end-to-end panorama database representation to maximize retrieval speed	
Recurrent Neural Networks for Person Re-identification Revisited (MIPR 2019)	2017-2018
Proposed a simplification of an existing video representation technique while increasing retrieval performance	
Art++ (supported by the Brown Institute for Media Innovation)	2014-2016
Responsible for the technical part on the development of a platform for creation of AR museum tours	
Developed a mobile application using state-of-the-art vision algorithms	
Effective Fisher Vector Aggregation for 3D Object Retrieval (ICASSP 2017)	2015-2016
Developed an image-based retrieval system achieving high compression of a video database	

HONORS AND AWARDS

Best Paper Session, CBMI (<i>Efficient Panorama Database Indexing for Indoor Localization</i>)	2019
Best Paper Award, MIPR (<i>Recurrent Neural Networks for Person Re-identification Revisited</i>)	2019
Best Paper Award for Industry, ICIP (<i>Depth Augmented Stereo Panorama for Cinematic VR with Focus Cues</i>)	2016
SCIEN Industry Affiliates Meeting: Apple Poster Award (<i>Depth Augmented Stereo Panoramas for Cinematic VR</i>), Intel Poster Award (<i>Art++: Augmented reality in museums</i>)	December 2015
Ranked 6 th /135 at the Stanford Electrical Engineering Ph.D. qualifying examination	January 2013
First rank at the École polytechnique entrance examination	July 2009

SKILLS

Programming:	General purpose tools (Python, C++, MATLAB) Machine learning frameworks (Tensorflow/Keras, Torch/PyTorch, Caffe) Mobile development (Android: Java and native C++) Basics in front-end and back-end web development (HTML, CSS, JavaScript, PHP, MySQL)
Languages:	English (fluent); French (native); Italian (intermediate); Turkish (intermediate); Japanese (basic)