Jean-Baptiste Boin

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Stanford Ph.D. graduate interested in computer vision, mobile visual search, augmented reality.

EDUCATION

Stanford University, **Ph.D., Electrical Engineering** — 2012-2019
Graduated from the *Image, Video and Multimedia Systems* 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

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

WORK EXPERIENCE

Google **(USA)** — June-September 2017
Intern in the Mobile Vision research team
- Integration and enhancements of existing systems for multi-object tracking

STMicroelectronics **(France)** — April-August 2012
Intern in a research team specialized in radiation hardened and ultra low voltage hardware design
- Participation in a project aimed at reinforcing a microprocessor to make it more resilient to errors
- Elaboration and implementation of a robust custom test protocol to be run on the microprocessors

Red Tech Consulting **(Saudi Arabia)** — July-August 2011
Junior consultant in a telecom consulting company for a project expanding the Saudi Internet network

TEACHING EXPERIENCE

Teaching Assistant **(Stanford University)**
- Digital Image Processing (EE368) — 2015, 2016, 2018, 2019
- The Fourier Transform and its Applications (EE261) — Summer 2013

Grader **(Stanford University)**
- Introduction to Linear Dynamical Systems (EE263) — Fall 2013
- Digital Signal Processing (EE264) — Fall 2013
- The Fourier Transform and its Applications (EE261) — Summer 2013

HONORS AND AWARDS

- Best Paper Session, CBMI (*Efficient Panorama Database Indexing for Indoor Localization*) — 2019
- Best Paper Award, MIPR (*Recurrent Neural Networks for Person Re-identification Revisited*) — 2019
- Best Paper Award for Industry, ICIP (*Depth Augm. Stereo Panorama for Cinematic VR with Focus Cues*) — 2016
- SCIEN Industry Affiliates Meeting: Apple Poster Award (*Depth Augmented Stereo Panoramas for Cinematic VR*), Intel Poster Award (*Art++: Augmented reality in museums*) — December 2015
- Ranked 6th/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)
Mobile development (Android: Java and native C++)
Machine learning framework (Torch/PyTorch, Caffe, Tensorflow)
Front-end and back-end web development (HTML, CSS, JavaScript, PHP, MySQL)

Languages: English (fluent); French (native); Italian (intermediate); Turkish (intermediate); Japanese (basic)