Benoit Seguin

Personal Data

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Citizenship:	French
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Professional Experience

Current
Sept 2014
PhD Student, DHLAB, EPFL
Finding visual similarities in large databases of paintings.
Use of modern computer vision and image analysis techniques in order to allow art historians and archivists to navigate large iconographic collections.

Aug 2014
Sept 2013
Scientific assistant CVLAB EPFL
FastScan Project, with Prof. Fua
Implemented a fast multi-threaded prediction algorithm for mitochondria segmentation in SEM images. A prototype of integration directly with the software of a Microscope showed promising result in accelerating the scanning of biological tissues.

Feb-Aug 2013
Master Thesis at IBM Research, Zurich
Estimating VLSI pattern sensitivity with respect to variability in optical lithography printing, with Dr. Gabrani
Developed an automatic analysis tool for the success and the variability of the lithography printing process for a specific pattern (based on image analysis of SEM images and error evaluation). Showed how VLSI patterns react differently according to variations in the printing conditions.

Apr-Sept 2011
Internship at Carnegie Mellon University, Pittsburgh
Unsupervised object detection with an eye-tracking system, with Prof. Hebert

Skills

Areas:	Machine Learning, Computer Vision, Image Processing.
Programming:	Python, C++, Tensorflow, UNIX systems, basic web-programming with Angular.

Education

2011-2013
Master of Science in Computer Science, **EPFL**, Lausanne
Very High Honours, Gpa: 5.53/6.0

2008-2013
Diplôme d'Ingénieur, **École Polytechnique ParisTech**, Palaiseau
Gpa: 3.5/4.0

2006-2008
Preparatory Classes, **Lycée du Parc**, Lyon
Gpa: 3.92/4

2006
Scientific Baccalaureate, **Lycée Charles Nodier**, Dole
Very High Honours

Languages

French:	Mothertongue
English:	Fluent, TOEFL IBT 106/120, prior to a 5 months stay in the USA.
Japanese:	Basic Knowledge, JLPT N4 (equivalent of CEFR A2). Two months stay in 2010.

Extra curricular activities

Piano:	*Certificat de fin d'étude*, awarded with very high honors in 2005.
Choir:	Has been part of multiple choruses, in Paris and Lausanne. Member of the organizing team of the Lausanne's University Choir from 2013 to 2017. Main organizer of a classical concert attended by 2'000+ in 2017.
Robotics:	In 2009, as the vice-chairman of the robotics association of the École Polytechnique, led a team of 12 persons to the French Robotics Cup for a top-15% finish.

Awards

- Qualified for the final round of Google Hashcode 2016 (top-50 out of 1000+ teams)
- Best Demonstration Award at the Research Days of the CS Faculty of EPFL in 2017.

Publications

M. Gabrani, B. Seguin, H. Saab Estimating pattern sensitivity to the printing process for varying dose/focus conditions for RET development in the sub-22nm era, in *Metrology, Inspection, and Process Control for Microlithography XXVIII*, 2014

I. diLenardo, B. Seguin, F. Kaplan Visual Patterns Discovery in Large Databases of Paintings, in *Digital Humanities Conference* 2016, Krakow

B. Seguin, C. Striolo, I. diLenardo, F. Kaplan Visual Link Retrieval in a Database of Paintings, in *VISART Workshop at European Conference of Computer Vision* 2016, Amsterdam.

B. Seguin, I. diLenardo, F. Kaplan Tracking Transmission of Details in Paintings, in *Digital Humanities Conference* 2017, Montréal.

W. Haaswijk*, E. Collins*, B. Seguin*, M. Soeken, S. Süsstrunk, F. Kaplan, S. De Micheli Deep Learning for Logic Optimization, in *International Workshop on Logic & Synthesis* 2017.

B. Seguin The Replica Project: Building a visual search engine for art historians, in *ACM XROADS Magazine* Spring 2018.

B. Seguin, L. Costiner, I. diLenardo, F. Kaplan Extracting and Aligning Artist Names in Digitized Art Historical Archives, in *Digital Humanities Conference* 2018, Mexico.

W. Haaswijk*, E. Collins*, B. Seguin*, M. Soeken, S. Süsstrunk, F. Kaplan, S. De Micheli Deep Learning for Logic Optimization Algorithms, in *International Symposium on Circuits and Systems* 2018.