Gabriel Louis Cuendet

CONTACT INFORMATION

Place du Petit-Saint-Jean 13
1700 Fribourg
Switzerland

31, married, Swiss nationality
☎ +41 79 645 67 04
@ gabriel.cuendet@protonmail.ch
in ch.linkedin.com/in/gcuendet

Research scientist in Computer Vision and Machine Learning and motivated team player looking for opportunities to contribute to fascinating projects in the industry by developing and implementing new algorithms and methods.

EDUCATION

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Ph.D., Electrical Engineering, expected summer 2017
- Thesis Topic: *Facial Images Analysis Applications in Medical Domains*
- Adviser: Prof. Jean-Philippe Thiran

M.S., Electrical Engineering, July 2012   GPA: 5.56 (6.0 scale)
- Thesis Topic: *Difficult Intubation Assessment from Video*
- Area of Study: Major in **information technologies** and minor in **biomedical technologies**

PROFESSIONAL EXPERIENCE

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

<u>Research assistant</u>   **September 2012 to present**

Objective: Automatically predict difficulty of intubation and develop a new 3D face model
Mission: Conduct research in collaboration with CHUV and nViso, collect data in hospitals, develop a C++ library for facial images analysis, record and align a 3D database of faces, supervise students in projects related to facial images analysis
Technologies: C++, Python, Face Alignment (AAM, CLM, SDM, LBF), Machine Learning, 3D Geometry, Spectral Mesh Processing, 3D Face Models
Results: EU Patent application, scientific publications

<u>Teaching assistant</u>   **September 2008 to June 2011**

Teaching Assistant for the courses and labs: Introduction to electrical engineering, Measurement Systems, Programming (C++)

IBM Research, Zurich, Switzerland

<u>Research intern</u>   **September 2015 to February 2016**

Objective: Automatically extract numerical data from scientific charts images
Mission: Conduct research, collect and organize data, develop and test code, write a scientific article and a patent application
Technologies: C++, Python, Image Processing, Machine Learning, Markov Logic Network
Results: US Patent application, conference article submission, post-doc position opening to continue the project

ABB, Corporate Research Center, Bangalore, India

<u>Intern</u>   **July 2010 to September 2010**

Objective: Reduce the use of big temporary objects at execution time in order to achieve real-time simulation of electrical systems
Mission: Performed simulations and explored advanced concepts of C++
Technologies: C++, expression templates, template meta-programming
Results: Internship report containing preliminary results

SKILLS	**Computer Programming:**
	- C, *C++*, CMake, OpenCV library, *Python*, Scikit-learn and NumPy libraries, MATLAB, Bash, TEX (LATEX, BibTEX)
	Languages:
	- French: mother tongue
	- English: Excellent knowledge (professional language since 2010)
	- Swedish: Good knowledge (exchange year in Sweden, 2002-2003)
	- German: School knowledge (9 years courses)

REFEREED JOURNAL PUBLICATIONS

[1] **G. L. Cuendet**, C. Ecabert, M. Zimmermann, H. K. Ekenel, J.-P. Thiran. 3D Spectral Nonrigid Registration of Facial Expression Scans. *submitted to IEEE Transactions on Visualization and Computer Graphics*, April 2017

[2] A. Yüce, H. Gao, **G. L. Cuendet**, J.-P. Thiran. Action Units and Their Cross-Correlations for Prediction of Cognitive Load during Driving. *IEEE Transactions on Affective Computing*, Jun. 2016
doi:10.1109/TAFFC.2016.2584042

[3] **G. L. Cuendet**, P. Schoettker, A. Yüce, M. Sorci, H. Gao, C. Perruchoud, and J.-P. Thiran. Facial image analysis for fully automatic prediction of difficult endotracheal intubation. *IEEE Transactions on Biomedical Engineering*, vol. 63, pp. 328-339, Feb. 2016.
doi:10.1109/TBME.2015.2457032

PATENTS

[4] **G. L. Cuendet**, P. Staar, M. Gabrani and K. Bekas. A method and a system to fully-automatically and quantitatively analyze technical diagrams. Patent to be filed at the US Patent Office.

[5] P. Schoettker, **G. L. Cuendet**, C. Perruchoud, M. Sorci and J.-P. Thiran. Difficult intubation or ventilation prediction system. Patent pending at the European Patent Office, October 2013.

A complete list of publications can be found on https://gcuendet.github.io/publications/

AWARDS

Institute for Pure & Applied Mathematics (IPAM), UCLA, Los Angeles, USA
- Full grant for attending the Graduate Summer School: Computer Vision, Summer 2013

EXTRA-CURRICULAR

Certificat amateur de violon (certificate of violin amateur studies)   June 2009
Conservatoire de Fribourg, Switzerland

Chamber music   **2009 to present**
- Violinist of the "Chromatique" piano trio. We perform public concerts in the french speaking part of Switzerland, playing the classical and romantic repertoire.
- Chamber music master classes in Blonay with amongst others: Paul Cocker, Joel Marosi or the Trio Lenitas.

Orchestra musician (OSUL)   **2012 to present**
- Violinist in the Lausanne symphonic university orchestra. The orchestra gives 3 concerts per year and plays the romantic and modern repertoire for large symphonic orchestra.

REFERENCES

Available upon request.