

# Olivier BRUCHEZ, Software Engineer / Scala Developer

Born July 6, 1978 in Geneva, Swiss, married



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## Professional Experience

May 2012 -  
Feb. 2017

### **Software engineer / Scala developer at MetaMedia Center, EPFL**

Developed and maintained a digital asset management (DAM) database for the Montreux Jazz Digital Project (**Scala, Lift, Slick**). Some particular modules I've worked on includes:

- Artist contracts / music rights management and search
- Photo import tool using fuzzy string searching
- REST API for iPad application (JSON / XML)
- Integration with a smart playlist generator
- Various import/export and consistency check tools

Aug. 2011 -  
Mar. 2012

### **Software engineer / Scala developer at E-mmunizer**

- Developed a highly scalable web platform based on cutting-edge technology (**Scala, Lift, Cassandra, PostgreSQL, Amazon S3, jQuery**)

Sept. 2009 -  
Jul. 2011

### **Software engineer / consultant at ELCA Informatique**

*Mar. 2011 - Jul. 2011*

- Maintained and tested an unforgeable code printing framework (embedded part), as well as a layout editor for different printers (**Python, C#, C++**)

*Sept. 2009 - Feb. 2011 (SIX Card Solutions)*

- Developed a web application to allow multiple teams to synchronize their activities during the deployment of a release into the production environment (**Java, GWT**)
- Debugged and partially rewrote a risk management (fraud detection) module previously developed by an intern (**C++, SQL, large databases**)
- Developed and maintained various online/high-availability and offline electronic payment applications using Scrum (agile method), UML, and test-driven development (TDD) (**Java, C++, SQL, large databases**)

Jul. 2008 -  
Aug. 2009

### **Software engineer / consultant (self-employed)**

- Added a REST interface to an already existing web application and developed the corresponding Java client API (**REST, Java, Orbeon Forms, XForms**)
- Added features to an XForms-based web application for network audit reports management (**Orbeon Forms, XForms, XQuery, XSLT, eXist**)
- Developed a desktop application to launch E-Prime psychological tests/games for children with test results analysis/upload

Apr. 2002 -  
Jun. 2008

### **Software engineer at VisioWave / GE Security**

Developed and maintained the company cross-platform software (core services and SDK) for real-time acquisition, transmission, storage, and retrieval of digital audio/video for security applications. Worked on more than thirty releases, service packs, and hotfixes. Fixed hundreds of customer/QA-reported bugs.

- Designed and implemented a hardware-agnostic XML-based health monitoring framework (as well as several plugins for motherboards, RAID controllers, etc.)
- Tested and maintained an H.264 codec (rate control and entropy coding modules)
- Developed a video/audio rendering component, using pixel shaders for deinterlacing and color conversion, including MPEG-2 PS parsing (DirectX, HLSL, assembly language)
- Designed and implemented a distributed alarm/event management system
- Developed a timeline component for video/audio storage display/playback (GUI)
- Maintained a web-based configuration tool (PHP, SQL)

## Software Skills

<b>Languages</b>	<b>Scala, Java, JavaScript, C++</b> , Python, PHP, C#, XQuery, XSLT
<b>Frameworks</b>	Play, Akka, Slick, Lift, jQuery, Orbeon Forms, Hibernate, Restlet
<b>Databases</b>	MySQL, PostgreSQL, Cassandra (NoSQL), Neo4j
<b>Dev. tools</b>	Git, IntelliJ, SBT, Eclipse, Maven
<b>General</b>	Web development, functional programming (FP), object-oriented programming (OOP), distributed/multithreaded/real-time programming, audio/video, machine learning

## Academic Projects

2001 - 2002	Distributed video archival and streaming system using CD/DVD jukeboxes ( <b>C++</b> , <b>parallel computing</b> , <b>video streaming</b> , <b>3D</b> , <b>drivers</b> )
2001	Utility for converting between ICC profiles and XML ( <b>Java</b> , <b>XML</b> , <b>color management</b> )
2000 - 2001	Exploration of new types of Turing neural networks ( <b>C++</b> , <b>ANN</b> , <b>evolutionary algorithms</b> )
2000 - 2001	Control software for an MC68331-based mobile robot ( <b>C</b> , <b>assembly language</b> )
2000	DNA sequence classification using artificial neural networks ( <b>Lisp</b> , <b>bioinformatics</b> , <b>ANN</b> )

## Other Projects / Personal Projects

2000 - Present	KeithJarrett.org, an unofficial website about jazz pianist Keith Jarrett
2002 - 2010	Database for Civil Protection / Protection of Cultural Property organization
2000	Self-learning Connect Four software using neural networks and reinforcement learning

## Education

1997 - 2002	<b>Master of Science in Computer Science (MS/CS)</b> EPFL, Swiss Federal Institute of Technology, Lausanne, Switzerland Optional courses: artificial intelligence (AI), artificial neural networks (ANN), bioinformatics, computer graphics, document engineering, natural language processing, pattern recognition, virtual environments
1992 - 1997	<b>Scientific Matura</b> Collège de l'Abbaye de Saint-Maurice, Switzerland

## Coursera Courses / Recent Reads

Dec. 2015	"Functional Programming in Scala", by Paul Chiusano and Rúnar Bjarnason
May 2014	"Machine Learning", by Andrew Ng
Feb. 2014	"Play for Scala", by Peter Hilton, Erik Bakker & Francisco Canedo
Dec. 2013	"Principles of Reactive Programming", by Erik Meijer, Martin Odersky & Roland Kuhn
Dec. 2013	"Scala in Depth", by Joshua D. Suereth

## Language Skills

French (mother tongue), English (fluent), German (basic knowledge)

## Hobbies / Interests

Mountain hiking, music (jazz and more), reading, blogging, traveling, meditation, Getting Things Done (GTD), science, technology, astronomy, futurology, philosophy, MOOCs (Coursera)