





Olivier BRUCHEZ, Software Engineer / Scala Developer

 Nationality: Swiss

 Lausanne, Switzerland

 +41 (0)79 783 92 39

 olivier@bruchez.org

 linkedin.com/in/obruchez

 github.com/obruchez

Professional Experience

May 2012 -
present

Software engineer / Scala developer at Metamedia Center, EPFL

Developed and maintained a digital asset management (DAM) database for the Montreux Jazz Digital Project (**Scala, Play, Akka, Slick, Elasticsearch, Lift**). Some sub-projects I've worked on include:

- Ingestion solution based on Archivematica (**Akka, Slick, S3, Google APIs**)
- REST API for iPad and web applications (**Akka, Elasticsearch, JSON**)
- Artist contracts / music rights management and search
- Photo import tool using fuzzy string searching
- Integration with a smart playlist generator
- Various import/export and integrity check tools
- Various audio/video compression/processing tools (ffmpeg, custom algorithms, etc.)
- Integration of various algorithms (perceptual hashes, affinity propagation clustering, etc.)

Aug. 2011 -
Mar. 2012

Software engineer / Scala developer at E-mmunizer / Groovin

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

Sep. 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, Google Web Toolkit / 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 (**C++, data analysis**)

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 streams for security applications. Worked on more than 30 releases, service packs, and hotfixes. Fixed hundreds of customer/QA-reported bugs.

- Designed and implemented a hardware-agnostic XML-based health monitoring framework
- 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

Languages	Scala, Java, JavaScript , C++, Python, PHP, C#, XQuery, XSLT
Frameworks	Play, Akka, Slick , Elasticsearch, Archivematica, Lift, Orbeon Forms
Databases	MySQL, SQLite, PostgreSQL, Cassandra, Neo4j
Dev. tools	Git, IntelliJ, SBT, Eclipse, Maven
General	Web development, audio/video, archiving, digital preservation, functional programming (FP), object-oriented programming (OOP), distributed/real-time programming, machine learning

Academic Projects

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

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	Master of Science in Computer Science (MS/CS) 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	Scientific Matura Collège de l'Abbaye de Saint-Maurice, Switzerland

MOOCs / Reads

Mar. 2017	"Big Data Analysis with Scala and Spark", by Heather Miller #mooc
Oct. 2016	"Parallel programming" (Scala), by Viktor Kuncak & Aleksandar Prokopec #mooc
Dec. 2015	"Functional Programming in Scala", by Paul Chiusano and Rúnar Bjarnason #book
May 2014	"Machine Learning", by Andrew Ng #mooc
Feb. 2014	"Play for Scala", by Peter Hilton, Erik Bakker & Francisco Canedo #book
Dec. 2013	"Principles of Reactive Programming", by Erik Meijer, Martin Odersky & Roland Kuhn #mooc
Dec. 2013	"Scala in Depth", by Joshua D. Suereth #book

Language Skills

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

Hobbies / Interests

Mountain hiking, music (jazz and more), reading, blogging, traveling, going to the theater/opera, meditation, science/math, technology, astronomy, futurology, philosophy, Getting Things Done (GTD)