

Olivier BRUCHEZ, Software Engineer

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Professional Experience

2009 - Present **Software engineer / consultant at ELCA Informatique / SIX Card Solutions**

Developed and maintained online and offline electronic payment applications using Scrum (agile method), UML, and unit testing (FRUCTOSE/TUT).

2008 - 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)
- Modified several visual elements of the Summary Page of Form Runner in Orbeon Forms (Orbeon Forms, CSS, YUI)
- 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

2002 - 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. More specific tasks:

- Design and implementation of a hardware-agnostic XML-based health monitoring framework, as well as of various hardware-specific monitoring modules (motherboards, RAID systems, etc.)
- Test and maintenance of an H.264 codec (mainly rate control and entropy coding modules) and development of an AVC multicast multiplexer prototype
- Development and maintenance of a video/audio rendering component, using pixel shaders for deinterlacing and color conversion, including MPEG-2 PS parsing
- Design and implementation of a distributed alarm/event management system
- Development and maintenance of an interactive graphical timeline for video/audio storage representation
- Maintenance of a Web-based configuration tool (PHP/SQL)
- Development of various test/performance tools
- Maintenance and administration of the company CI (continuous integration) build system (PHP/Perl) and revision control system (Perforce)
- Installation, customization, and maintenance of an internal knowledge base for software engineers using MediaWiki
- Technical advisory of pre-sales, support, and QA engineers
- Collaboration with local hardware, driver, and firmware engineers, as well as remote software development teams

1999 - 2000 **Student assistant for an object-oriented programming course (EPFL)**

Helped computer science students during exercise sessions and corrected examinations.

Software Skills

Languages	Java, C/C++, PHP, SQL, XForms, XQuery, XSLT, HTML, JavaScript, Perl, Pixel Shader Assembly Language/HLSL
APIs	Win32, POSIX, DirectX
Frameworks	Orbeon Forms, Google App Engine (GAE), Google Web Toolkit (GWT), Hibernate, Restlet, Tomcat
General	TCP/IP, SNMP, distributed/multithreaded/real-time programming, audio/video streaming, MPEG-4 AVC/SVC, H.264, hardware/RAID monitoring, persistence (JPA/JDO)
OSs	Mac OS, Linux, Windows
Software	Eclipse, Ant, Visual Studio, Apache, MySQL, MediaWiki, Perforce, SVN, CVS, Access, Project, Visio

Academic Projects

2001 - 2002	Distributed video archival and streaming system using CD/DVD jukeboxes, as part of a 3-person team (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)
1999 - 2000	Multiplayer network game, as part of a 5-person team (Java, Swing, RMI, UML)
1999 - 2000	Compiler for a simplified version of Java (Java, compilation theory, bytecode)

Other Projects / Personal Projects

2002 - Present	Database for Civil Protection / Protection of Cultural Property organization
2000	Self-learning Connect 4 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

Language Skills

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

Hobbies / Interests

Mountain hiking/biking, skiing, blogging, music (jazz and more), reading, cinema, theatre, photography,
Getting Things Done (GTD), technology/futurism