

Olivier BRUCHEZ, Software Engineer

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Born July 6, 1978 in Geneva
Swiss, single

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Professional Experience

April 2002 - **Software engineer at VisioWave / GE Security**

June 2008 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 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 C/C++, Java, JavaScript, PHP, SQL, Perl, XML/XSLT, HTML, Pixel Shader Assembly Language/HLSL

APIs Win32, POSIX, DirectX

Frameworks CORBA, Java RMI

General TCP/IP, SNMP, distributed/multithreaded/real-time programming, audio/video streaming, MPEG-4 AVC/SVC, H.264, hardware/RAID monitoring

OSs Windows, Linux

Software Visual Studio, Eclipse, Apache, MySQL, MediaWiki, Perforce, 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

- 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