Frédéric Dubouchet

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RESUME OBJECTIVE

Senior software engineer in the **computer engineering** sector for more than 20 years, including at some of the biggest companies (**Nagra**, **CERN**, **Google**), the experience I have accumulated can provide solutions in embedded, big data, microservices, and machine learning. I have been teaching **C++** at the bachelor and master level for about two years and find it enjoyable. With my experience and contacts, I can be a valuable addition to the school.

EDUCATION

HES-SO // MASTER
MSE in Information and Communication Technologies
2011 - 2013 | Lausanne, CH
Thesis : (6 / 6) - Betatron tune measurement with the LHC damper using a GPU

HES-SO // HEPIA
BS in Computer Science
2002 - 2005 | Geneva, CH
Thesis : (5.5 / 6) - 3D stereoscopy

EPFL
Computer Science
1997 - 1999 | Lausanne, CH
Unfinished - Founded Eleaf Sarl

MATURITÉ
Type S, scientifique
1997 | Geneva, CH
Grad. (74 / 90) - Swiss secondary school degree

LINKS

Github:// **anirul**
LinkedIn:// **Frédéric Dubouchet**

COURSEWORK

MASTER
Artificial Intelligence + Practicum
Cryptography
Software Security
Optimizations
Fourrier and Wavelets
Web Data Mining
GPU computing
Cloud computing

BASHELOR
Digital Signal Processing
Compilers + Practicum
Theory of Computation
Operating Systems
Databases
Virtual Marchine + Practicum
Computer Graphics + Practicum

EXPERIENCE

CONTRACT WORK | Contractor
July 2020 - Now | Sion, CH
Work in the domain of (AI/ML), 3D graphics, and networks
- Toolset for Unreal Engine 4 (C++)
- Implementation of network protocol (C#/nat-pmp)
- Distributed computing and capturing hardware (C++/gRPC)

ORIGINAL SCORE | Founder
March 2019 - Now | Lens, CH
Create a game to release on Steam
- Organizing with Editors and financial sector
- Managing a team of graphists and game designers

GOOGLE | Software Engineer
October 2015 - February 2019 | Zurich, CH
Working on Google Shopping from anti-spam to database
- Database writing for the Google Shopping group (C++/OpenCV/gRPC)
- Reviewing process for online automatic purchase (C++/Javascript/Java)
- Version checking system from online automatic purchase (C++/git/gRPC)

IDIAP RESEARCH INSTITUT | Software Engineer
August 2014 - August 2015 | Martigny, CH
Developer for research projects
- Teaching computer vision to researchers (C++/OpenCL/OpenCV)
- Robotic and computer vision projects (C++/OpenCL/CUDA/OpenCV)
- Automatic Speech Recognition (Python)

EPFL - MOKASTUDIO | Senior Software Engineer
February 2014 - July 2014 | Lausanne, CH
CTI project for a 3D animation and inverse kinematic application
- Writing a full forward scene graph (C++)

CERN | Software Engineer
May 2006 - December 2013 | Geneva, CH
Software and drivers for controlling custom hardware board in a realtime environment, on LynxOS and then Linux
- Leader for the Linac4 RF control system (C++)
- LHC RF Beam control: architecture, coordination, implementation (C++)
- ADT damper: architecture, coordination, implementation (C++/OpenCL)

NAGRAVISION | Software Developer
2000 - 2002 | Lausanne, CH
Content management and encryptions for digital television
- Porting the software from Win32 to Linux and TRU64 UNIX (C/C++)
- Multiplexer driver for digital trelevision (C)

ELEAF SARL | Founder, Software Developer
1999 - 2000 | Geneva, CH
Web backend development
- COM objects for Web/ASP FTP, POP3, IMAP interfaces (C++)
- Multimedia Java Applets (Java)

TEACHING

SAE | Creative Media Education
September 2020 - August 2021 | Geneva, CH
- Beginner lecture (C++)
- How to implement a basic physic engine (C++)
- Computer Graphics (OpenGL/C++)
- Optimization (C++/OpenCL/CUDA/Assembly)

EPAC | École Professionnelle des Arts Contemporains
September 2019 - July 2020 | Saxon, CH
- 3D infographics and game techonologies (C++/OpenGL/gRPC/Socket/...)
- Handling of Unreal 4 (C++/Blueprint)

SAE | Creative Media Education
February 2019 - Now | once per month | Geneva, CH
- Game Engine technologies (C++/Socket/...)
- Handling of Unreal 4 (C++/Blueprint)

SGA | Swiss Game Academy
August 2016 | July 2019 | Fribourg, CH
- Handling of Unreal 4 (Blueprint)

RESEARCH

CERN | Graduate Research
July 2013 - December 2013 | Geneva, CH
Betatron tune measurement with the LHC damper using a GPU with **Prof. Paul Albuquerque** and **Dr. Wolfgang Höfle** during my master thesis. A system to make real-time Fourier transform on GPU to better react to instabilities in the LHC beam using the ADT damper. It was on display at the **IBIC 2013** conference in Oxford, UK.

HEPIA | Undergraduate Research
Jan 2013 - Apr 2013 | Geneva, CH
I made a simple comparison of OpenCL and CUDA performances for the **Hepia**. Implementation of various algorithms using OpenCL, available on **GitHub**.

SKILLS

LANGUAGE | Natural
French	Mother tongue
English	Fluent
German	Rusted
Japanese	Beginner

TECHNICAL | Languages & OS
- Over 100'000 lines
  - C
  - C++
- Over 10'000 lines
  - Assembly
  - C#
  - Java
  - JavaScript
  - Json
  - Protocol Buffers
- Over 1'000 lines
  - gRPC
  - LaTeX
  - Lua
  - Python
  - XML/XSD
- Familiar
  - cmake
  - git
  - PostgreSQL
  - Unreal Blueprint
  - VCPKG
- OS
  - FreeBSD
  - Linux
  - macOS
  - Windows

AWARDS AND PROJECTS

Year	Name	Type	Tech	Description
2001	Ping	32k game	C++,RayTracing	6th at Mekka and Symposium
2002	El Loco Megabus	32k game	C++,OpenGL	1st at Mekka and Symposium
2005	panoptriptikum	intro 4k	8Bit-Script	2nd at Breakpoint
2006	Biolite	96k game	C++,DirectX	6th at Breakpoint
2009	miniDHT	network	C++,protobuf	Distributed Hash Table (P2P)
2010	Biolite Reloaded	game	C++,Irrlicht	1st at Buenzli
2012	MOLA Parser	research	C++	Parsing of NASA Mars Orbital Laser Altimetry
2014	See Mark	game	C++,Irrlicht	Epic Game Jam
2015	CPPS UE4	research	Blueprint	Multiscreen setup for use in an earthquake simulator
2015	Mirages	game	Blueprint	Global Game Jam
2015	Meow Zedong,...	game	Blueprint	Epic Game Jam
2016	Green Revenge	game	Blueprint	Epic Game Jam
2017	Maneki Neko,...	game	Blueprint	Epic Game Jam
2018	Isotops	game	C++,Blueprint	Nordic Game Jam
2018	Meow Zedong 2,...	game	C++,Blueprint	Epic Game Jam
2019	Mini Epic City Builder	game	C++	Epic Game Jam
2020	Frame	engine	C++,OpenGL	3D Engine (Bloom, PBR, SSAO, Deffered Rendering,...)
2022	Unreal Mine Sweeper Plugin	demo	C++	Mine sweeper as a plugin for Unreal 4.