






Profile

Born in Cali, Colombia 1983, Salim Perchy is a systems engineer currently working on the IceSL project; a modeler/slicer for 3D printing. He holds a PhD from Université Paris-Saclay (École Polytechnique de Paris) in computer science. He has worked before on projects mainly aimed at developing multimedia applications and formal development tools and libraries. His main skills are in: **Multimedia/Game programming and Concurrency and Mobility in computers.**

Contact

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Skills

Programming Skills:	Technical Skills:
<ul style="list-style-type: none">• Highly Proficient with C and C++.• Proficient with Python, Java, Javascript, and Matlab.• Proficient with Lua, Assembler, Lisp.• Experienced in OpenGL / OpenAL / SDL and DirectX / Xaudio / XInput.• Proficient with STL and Boost libraries.• Knowledge of SQL, PL/SQL.• Experienced in integrated solutions (IDE's).• Extensive use of DotNet / Visual Studio, Xcode, Eclipse, Unix, SVN, Git, CMake, Headerdoc and Doxygen.	<ul style="list-style-type: none">• Proficient with 3D graphics programming in real time and 3D audio programming with low latency.• Experienced in tool-chains and incremental development in teams.• Proficient with software debugging, testing and documentation generation.• Experienced in desktop and mobile development.• Experienced multimedia cross-platform development.• R&D experience with new and evolving technologies in computation.

Current / Past work

Research Engineer, INRIA-Nancy; Nancy, FR — 2016-Present

Main developer of the IceSL software [\[link\]](#); a slicer that produces printing instructions for several 3D printers. IceSL aims to feature state of the art research in 3D printing accessible to the public in an intuitive software. It also has modeling capabilities; 3D objects are created by (and not limited to) scripting geometry with Boolean operations or exporting external assets.

- Charged with development, debugging and testing.
- Charged with deployment (Windows and Linux, 64 and 32 bits).
- Charged with integrating features created by other scientist/members.

- Responsible for documentation and co-responsible for technical support.
- Product exhibitor in fares, expositions and conventions.

Technologies used:

• C++11, C#, OpenGL.	• Lua, GLSL, Javascript.
• Visual Studio, Cmake.	• SVN, Git.

Doctorant Contractuel, INRIA-Saclay; Palaiseau, FR — 2013-2016

Researcher and Developer for the group COMÈTE, located in the laboratory of computing LIX - Paris-Saclay (Laboratoire d'Informatique de l'École Polytechnique). Working on models of social networks in computer concurrency for verification purposes.

- Charged with research of domain and order theory applied to mobile computing.
- Developed a C++11 cross-platform library to simulate constraint programming with mobility operators.
- Member of the Organizing Committee of the ICTAC 2015 scientific conference of computing.
- Helped redact applications for public and private funding on computing projects.
- Research results were peer-reviewed and made accessible as articles in HAL (Hyper Articles en Ligne).
- Also charged to assist teaching of programming courses.

Technologies used:

• C++11, Boost (BGL) and STL.	• Java, JML and Eclipse.
• OS X, Xcode and HeaderDoc.	• Unix, G++, Make, SVN.

Research Assistant, Javeriana University; Cali, COL — 2008-2013

Research assistant tasked with R&D of multimedia tools in the context of concurrent applications. Also in charge of developing multimedia libraries implementing sound protocols and modules for interconnecting sound systems with programming environments.

- Coded a thread-safe cross-platform implementation of the Open Sound Control (OSC) protocol for the Mozart language.
- Co-authored a model checker for non-deterministic constraint programming.
- Implemented the Minuit sound protocol for Pure Data. • Designed and coded a program for verification of properties in the execution of musical scores.

Technologies used:

• Gcc, Mozart and PureData.	• Antescofo, OSC protocol and Minuit.
• MingW32, Clang and Make.	

Personal Projects; 2008-Present

- Designed and programmed an Android version of the game Road Fighter. Its rules were verified in JML to prevent bugs.
- Created, designed and programmed a small 3D game engine in C for pedagogic purposes. The engine is cross-platform and supports per-pixel lighting, shadow maps, collision detection, 3D sound effects, ambient music, particle systems, among others.
- Wrote a stochastic hybrid model for simulating a soccer player IA.
- Coded a TCP multi-party self-competing IA (based on constraint-programming) solver of the game Sudominoku with declarative programming.
- Developed in Matlab an automatic pitch recognition program of guitar notes from an audio signal.
- Designed and coded a music generation program using stochastic grammars.
- Published a general-public article arguing video games to be the 8th art.

Technologies used:

• C, C++, Matlab.	• Java, Eclipse and Android.
• DirectX 9, OpenGL 2, OpenGL ES.	• Matlab (PRTTools), Python.
• OpenAL, XAudio, SDL and XInput.	• JML, EventB2JML.
• libogg, LAME	• AssImp (Open Asset Import Library)

References

• M. Frank D. VALENCIA	CNRS. LIX - École Polytechnique (Paris, FR)	frank.valencia@lix.polytechnique.fr	Supervisor
• M. Stefan HAAR	CNRS. LSV - ENS (Cachan, FR)	stefan.haar@inria.fr	Supervisor
• M. Camilo RUEDA	Professor. Universidad Javeriana (Cali, COL)	crueda@cic.javerianacali.edu.co	Supervisor
• Mm. Catuscia PALAMIDESSI	INRIA. LIX – Inria Saclay (Palaiseau, FR)	catuscia@lix.polytechnique.fr	Team leader
• M. Gerard ASSAYAG	IRCAM. Centre Pompidou (Paris, FR)	gerard.assayag@ircam.fr	Collaborator

Languages

- English (Fluent, IELTS 7.0)
- Spanish (Native)
- French (Intermediate, B1)

Portfolio

<https://members.loria.fr/sperchy/>