

**MAIN SKILLS**

**Languages** C++ 17; Python; GLSL; Bash  
**Concepts** optimization; multithreading; profiling; plugins  
**Tools** LLVM; gcc; gdb; perf; Valgrind; MSVC; git; CMake; Conan; Docker; Travis  
**API** OpenGL 4; Alembic; OpenMP; Qt 5; OpenSubdiv; TBB; Pixar's Usd

**EMPLOYMENT**

**3D R&D Engineer on Rumba** **Mercenaries Engineering** **Dec. 2016 – Now**

- developed synchronous & background evaluation, reflexion, serialization, binding and sound engines; improved rendering engine
- profiled and optimized interaction, rendering, evaluation, caching, playback, playblast, export and deserialization processes
- designed portable and multi-platform building and testing processes; created Windows and Linux packaging process
- added innovative and intuitive features such as multi frame edition, rig compilation and protection
- refactored code for maintenance and stability

**Computer Graphics Post-Doc** **INRIA Rhône-Alpes, IMAGINE Team** **Oct. 2014 – Sep. 2016**

- Optimized algorithms using parallelization, memory management and computational geometry, speedup: from x6 to x10.
- Valorized and referenced team publications, contributed to reports for a research project funded by the European Union.
- Defined, analyzed, implemented and compared 3D medial skeleton structuration methods, published in VMV 2016.
- In depth study and qualitative comparisons of 3D medial skeletons, published in Eurographics STAR 2016.
- Created and taught Computer Graphics practical lessons for a full semester at the ENSIMAG school.
- Conducted R&D projects, in animation, visualization, modelization and metrology for companies

**Computer Graphics PhD student** **University of Burgundy** **Oct. 2010 – Sep. 2014**

- Designed and implemented a multi-scale 3D shape representation model that enables intuitive and direct interactions (visualization, creation, deformation, simplification, segmentation and animation of 3D shapes).
- Published and presented three scientific articles on the subject.
- Created and taught 300 hours of Computer Science lessons.

**TECHNICAL EXPERIENCE**

- **Competitive Game AI Programming** (2020 – Now) Bot programming for various games on codingame.com. C++, Python.
- **Rumba** (2016 – Now). 3D intuitive and real-time animation software. C++, Python, OpenGL 4, Qt, TBB, OpenSubdiv
- **Micro Fabrication Simulator (Two Photon Polymerization)** (2015). Prototype for a start-up company, C++, OpenGL 4.
- **Median Path** (2015 – 2016). Medial skeletons computation, processing, analyses and manipulation library and tools (Open Source). C++, CGAL.
- **3D Research Engines** (2010 – 2016). Various projects to support and promote research in Computer Graphics. C++, OpenGL 4, Qt 5, Lua, Cuda, OpenMP.

**EDUCATION**

**Burgundy, France** **University of Burgundy** **Oct. 2010 – Sep. 2014**

- Computer Graphics PhD, *Meso-Skeletons: Skeletons for Intuitive and Direct Interactions with 3D shapes*, Sep. 2014.
- Master of Business Administration, with graduated work and final examinations, as doctoral courses, Jun. 2013.

**Grenoble, France** **ENSIMAG** **Sep. 2007 – Sep. 2010**

- Master of Science in Graphics, Vision and Robotics, September 2010, with honors.
- Computer Science Engineering, May 2007, with honors.
- Final year project entitled *Intuitive Deformations: an Iterative Creation by Gestures*, main results published in ACM SBIM, 2011.

**ADDITIONAL EXPERIENCE AND QUALIFICATIONS**

- **Instructor (2010 – 2016)**: taught 350 hours in Computer Science and Computer Graphics.
- **Supervisor (2013 – 2020)**: supervised student internships in companies for the University of Burgundy, one M.S. final project and 4 specialization projects at ENSIMAG in Computer Graphics, supervised student internships at Mercenaries Engineering
- **French National Council of Universities (2014)**: qualified to teach in higher educations and to work in public laboratories.
- **Communication**: scientific speeches given in international conferences, as well as in universities and international companies.