

Marco Altomonte

Resume

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Professional experience

- from Sept. 2007 until today **R&D Developer**, *Milestone Srl*, Milan, Italy, www.milestone.it.
On *Unreal Engine 4*, I developed the animated instanced skeletal system for crowds, the raindrop physics simulation, the mass spring simulation system for dynamic nets, the mesh and texture customization system for vehicles and characters, and artists tools. I developed and optimized *SIMD* and multithreaded code in *C++*, *Blueprints*, *AnimBlueprints* and materials. On the internal proprietary engine (for *PS4*, *XboxOne*, *PC*, *PS3*, *Xbox360*, *PSVita*), I developed the environment authoring editor, some wrappers (*Beast*, *Nvidia-texture-tools*, *Assimp importer*, *PSGL*, *SPURS* and *AltiVec* for *PS3*), the heightmap deformation system, the planar shadow system, the texture streaming system, the PVS computation system, *HLSL* shaders (for objects, effects, and build tools). I used various performance profiling tools, such as *Razor*, *Pix*, *RenderDoc*, *GPAD* and *Tuner*. I used *Perforce* and *Alienbrain* CVSs. More than 20 published titles such as *MxGP*, *Ride*, *MotoGP*, *WRC*, *MUD* and *SBK*. Currently working on *Gravel*.
- from June 2016 until today **Indie Developer**, *BikeMi Map*, goo.gl/U7o3vl.
I developed an Android app (and the data scraper) for *BikeMi* (Milan bike sharing service).
- from June to Aug. 2013 **External advisor**, *3Dflow*, Verona, Italy, www.3dflow.net.
I developed the Shape from Silhouette 3D reconstruction software on GPU for Android smartphones, using Java, C++ and GLSL.
- from May to July 2010 **External advisor**, *Surgica Robotica Srl*, Verona, Italy, surgicarobotica.com.
I developed the architecture of the stereoscopic vision system *Surgenius*.
- from Jan. to Sept. 2009 **Indie Developer**, *WizGames*, www.goo.gl/TZ2pR.
I developed and published *RC Racing 360* for the *Xbox LIVE Marketplace*. I developed the engine and game code on the *XNA* framework, wrappers and optimizations for *JigLibX* and *SharpSteer* libraries, and the production pipeline. I optimized code and assets for 720p rendering at 60fps (30fps in four players split-screen).
- from Jan. to Oct. 2009 and from July to Oct. 2007 **Research Associate, Fellowship**, *Altair Robotics Lab*, Verona, Italy.
I developed a surgical simulator for surgeons' training using the GPU as a general-purpose processor. I designed and developed the *GPGPU* code for the physics simulation using *OpenGL*, the graphics engine, optimized the high-level network protocol and the low-level drivers of the *Stäubli Automation Puma 200 Robot*. I worked on the haptic feedback for the *NASA's FRHC Joystick*. I won two open competitions in the 6th European Framework Programme for Research and Technological Development.
- from June to Oct. 2007 **Developer**, *Sinapsi Innotec Srl*, Brescia, Italy, www.sinapsi.net.
I developed the *OpenGL* graphics engine, the wrappers for *SolidWorks* and *Bullet* libraries, the *MFC* user interface, the *PostgreSQL* and *SQLite* databases and the localization system. Published softwares: *AsterCD*, *AsterD-3D*, *AsterRadiant* and *AsterSolar*.

Publications

- Sept. 2008 **IROS 2008**: International Conference on Intelligent Robots and Systems. In Proceedings 3959-3964. Wrote and presented the article *Simulation of deformable environment with haptic feedback on GPU*. www.goo.gl/l8uE9

June 2007 **CARS '07**: Computer Assisted Radiology and Surgery. In Proceedings, Poster Session. Wrote the poster *Organ Modeling and Simulation using Graphical Processing Units*. www.goo.gl/adFg8

Education

from 2005 to 2007 **Master's Degree** in Computer Science at *Università degli Studi di Verona, Facoltà di Scienze Matematiche, Fisiche e Naturali*. Thesis Title: *Development of a physics simulation of deformable bodies on GPU*. Final mark 108 out of 110.

from 2000 to 2004 **Bachelor's Degree** in Computer Science at *Università degli Studi di Verona, Facoltà di Scienze Matematiche, Fisiche e Naturali*. Thesis Title: *Development of a graphics engine in real-time*. Final mark 99 out of 110.

Languages

Italian **Mother tongue**

English Comprehension: **Advanced**. Written production: **Advanced**. Oral production: **Good**.

Other skills

Relational skills Demonstrated ability to work for long periods of time in small and large sized teams with tight deadlines.

Management skills Ability to manage and direct both local and remote teams.

Licenses Italian driving license