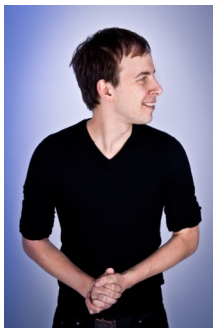


# Curriculum Vitae: ir. JEROEN BAERT



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**Nationality:** Belgian  
**Date of birth:** (REDACTED FOR WEB)  
**Web:** www.forcefbw.be (tech blog)  
www.jeroen-baert.be  
**Linkedin** www.linkedin.com/in/jbaert

## EDUCATION

» **Master in Applied Sciences and Engineering: Computer Science: Human-Machine Interaction**  
Catholic University of Leuven, 2010: magna cum laude

» **Bachelor in Applied Sciences and Engineering: Computer Science / Electrical Engineering**  
Catholic University of Leuven, 2008: cum laude

» **High School : Option Latin / Mathematics**  
Sint-Romboutscollege Mechelen, 2005: cum laude

## WORK EXPERIENCE

» **PhD Researcher at Computer Graphics Group, Catholic University of Leuven – 2012-(ongoing)**  
Funded by a grant from the IWT (Agency for Innovation by Science and Technology). Promotor is Prof.Dr.Ir. Philip Dutré. PhD research focused on efficient construction and rendering of large data sets using a hierarchical voxel structure. Keywords: level of detail, octree, voxels, rendering, GPU. More info on [www.forceflow.be](http://www.forceflow.be)

» **Science commentator & columnist – 2014-(ongoing)**  
Making media appearances on national TV and radio to comment on scientific news and issues. Leading and presenting “Science Slams”, combining my background as a stand-up and improv comedian to support projects which promote science to the general public. Writing columns on security and privacy issues for national newspapers. More info on [www.jeroen-baert.be](http://www.jeroen-baert.be)

» **Software Engineer at eSaturnus – 2010-2011**  
Developing NUCLeUS and Nebula, e-Health solutions based on video-over-IP. Writing C++/Python backend code for distributed environments, front-end GUI design and implementation using GWT stack. Experience with in-depth software testing, release cycles, software team communication, scheduling and vicious bug-hunting.

» **Team Manager at Zeropoint.it (Summer Internship) – 2009**  
Managing several large software projects, from requirements analysis to delivery. Organising meetings with clients and discussing technical details with the Pakistani branch of the company on a daily basis.

» **Software engineer at ND/Interwave Studios – 2006-2009**  
Nuclear Dawn is a total conversion for the Source game engine. I was in charge of developing the Linux server build, and worked closely with concept and 3D artists on prop design and map layout.

## EXTRACURRICULAR EXPERIENCES

### » Presenting / Improvisation / Stand-up comedy – 2010-(ongoing)

Hosting, presenting and performing at several events. Belgian Improvisation League, Famelab International, Youreca Science Challenge, Interfaculty Literary Prize, Radio Scorpio, The Joker Antwerp, Comedy Academy, ... 2<sup>nd</sup> Place in Flemish Improvisational Cup in 2008, Runner-up Humo's Comedy Cup in 2014.

### » Cartoonist at Veto – 2010-2015

Curating and designing a weekly page of satirical cartoons on local and world news in a student newspaper.

### » Team Lead at Preparee – 2008-2009

Organising and promoting events for the improv theatre group Preparee, based in Leuven. Development and deployment of community backend for organizing internal and external events, designing/managing the website and artwork creation. Artistic and organizational lead of the team.

### » Coordinator at Vlaamse Technische Kring / Revue – 2006-2009

Stage coordinator and technical support for an annual musical event organized by VTK, at the Catholic University of Leuven. Leading the stage crew, implementing technical support tools and creating artwork for promotional purposes.

## SKILLSET

### » Development:

Expertise in C, C++, Java, Python and building 3D GPU-accelerated software with OpenGL, GLSL and CUDA.

Proficient in JavaScript, Bash, PHP and Haskell.

Experience working with Cmake, Git / SVN / Mercurial and project tracking with TRAC / Bugzilla.

Experience working with video game engines: Unreal Engine, Unity, Source.

Experience with mobile development: Android, iOS.

Experience with (automated) functional, security and localization software testing.

Active contributor to open-source software community. See [www.github.com/Forceflow](http://www.github.com/Forceflow) for more information.

### » Operating Systems:

Expert knowledge of Windows / Linux desktop systems. Experience with OSX.

Competent Linux server admin experience (administration, maintenance, automation, security)

### » Other:

Markup: LaTeX, (Libre)Office and Markdown.

Maths / simulation: Matlab, R, Maple and NumPy.

Development environments: Visual Studio, Eclipse, GCC, MinGW and Cygwin.

Editing / design: Pixel and vector-based (Gimp, Inkscape). Basic sound / video editing experience.

Web application servers (J2EE, Oracle) and databases (MySQL, OracleDB, PostgreSQL)

CMS systems: Drupal, Wordpress, PmWiki and web stack (HTML, CSS, XML, Flash).

3D scanning and SFM / SIFT computer vision algorithms.

Raspberry Pi and Arduino DIY projects, aftermarket router software (OpenWRT)

### » Languages

**Fluent:** Dutch (native), English. **Good:** French. **Notions:** German.

## ADDENDUM: ACADEMIC PUBLICATIONS

» ***Out Of Core Construction of Sparse Voxel Octrees (SVO's)*** - With P. Dutré and A. Lagae

*High Performance Graphics 2013 / Computer Graphics Forum 2014*

Developing an algorithm which allows out-of-core construction of SVO's using only a fraction of the memory required by an in-core algorithm, with the added benefit of being able to handle extremely large polygon meshes.

Info: <http://graphics.cs.kuleuven.be/publications/BLD13OCCSVO/>

» ***Suggestive Contours in Real-Time Applications*** – Promotor: Prof. Dr. Ir. Philip Dutré (2010)

Implementing, comparing and improving several algorithms to draw contour lines on meshes at interactive rates. Providing a GPU-accelerated implementation to improve performance.

Investigating the visual impact of contour lines on image perception and quality, as well as their application in computer games.

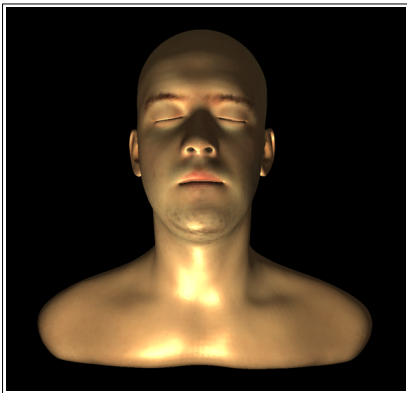
Info: <http://www.forceflow.be/thesis>



*Real time rendering of augmented SVO*



*Visualisation of SVO construction and rendering*



*Interactive re-lighting of SVO model*



*Real time rendering of Suggestive Contours (Thesis)*