

# Curriculum Vitae

Ronie Salgado

Bachelor in Computer Science  
Software Engineering Undergrad Student  
Email: [roniesalg@gmail.com](mailto:roniesalg@gmail.com)  
Website: <http://ronie.cl/>  
GitHub: <https://github.com/ronsaldo/>  
Birth date: November 14, 1992

## Personal Interest

I am passionate about 3d game programming, GPU parallel programming and physical mechanical engines.

## Education

- Universidad de Chile, Chile. 2011-2015, *Licenciado en Ciencias de la Ingeniería, mención Computación*, equivalent to a Bachelor in Computer Science.
- Universidad de Chile, Chile. 2011-Present, Master in Software Engineering Student.
- Universidad de Chile, Chile. 2016-Present, Master in Computer Science Student.

## Awards

- First Prize ACM ICPC Chile Programming Competition, November 2015. This provided a classification for the ACM ICPC 2016 World Finals to be held in Phuket, Thailand.
- Distinguished student award in the Department of Computer Science of the University of Chile, 2015.
- Selected for the ICSE 2015 Student Research Competition held in Florence, Italy.
- First Prize ACM ICPC Chile Programming Competition, November 2014.

- Third Prize ESUG 2014 Innovation Technology Award, August 2014.
- Second Prize ACM ICPC Chile Programming Competition, November 2013.

## Academic Experience

- *Woden 2*, I am making the next iteration Woden, a 3D graphics engine made in the Pharo programming language. Woden 2 was presented in a talk given at ESUG 2016. Woden 2 is available under the MIT License, available on <http://www.github.com/ronsaldo/woden2>.
- *Woden*, I am the main architect of Woden, a 3D graphics engine made in the Pharo programming language. Woden received a third place innovation technology award in ESUG 2014. Woden is available under the MIT License, available on <http://www.smalltalkhub.com/#!/~ronsaldo/Woden>.
- *Roassal 3d*, I am the main architect of Roassal 3d, an agile visualization engine to build 3d visualization. Roassal is available under the MIT License, available on <http://www.smalltalkhub.com/#!/~ronsaldo/roassal3d>. Roassal 3d is currently being used by INRIA and Synectique. Roassal 3d is developed as part of the Fondecyt project 1120094, *ALMA: Analyses and Tools for Monitoring and Improving Software Quality*.
- *Algorithms and Data Structures*, 2013 second term teaching assistant at the Universidad de Chile.
- *Introduction to Computing*, 2013 first term teaching assistant at the Universidad de Chile.

## Publications

- *Profiling Kernels Behavior to Improve CPU / GPU Interactions*. Proceedings of the 37th International Conference in Software Engineering, Florence. <http://dx.doi.org/10.1109/ICSE.2015.239>
- *CuboidMatrix: Exploring Dynamic Structural Connections in Software Components Using Space-Time Cube*. 2016 IEEE Working Conference on Software Visualization (VISSOFT). <https://doi.org/10.1109/VISSOFT.2016.17>
- *Lowcode: Extending Pharo with C Types to Improve Performance*. IWST'16 Proceedings of the 11th edition of the International Workshop on Smalltalk Technologies. <https://doi.org/10.1145/2991041.2991064>

## Talks

- *Woden 2: Developing a modern 3D graphics engine in Smalltalk*. Talk given at ESUG 2016 about the architecture begin the design of Woden 2. <https://youtu.be/fnPv7jtVY8U>

## Job Experiences

I have had the following job experiences:

- One month internship in RMoD research team in INRIA Lille, France, during January 2014.
- One and half month internship in ObjectProfile, Santiago de Chile, during January 2015. Here I did a real time volummetrical renderer for astronomical data.
- I did a numerical computation program using arbitrary floating point precision that was used for the paper *Traceability and computerization of alcoholometric tables*, paper presented in the July 2015 Bulletin of the *Organisation Internationale de Métrologie Légale*. [http://www.oiml.org/en/publications/bulletin/pdf/oiml\\_bulletin\\_july\\_2015.pdf](http://www.oiml.org/en/publications/bulletin/pdf/oiml_bulletin_july_2015.pdf)
- A five months internship in RMoD research team in INRIA Lille, France, starting at April 2016.

## Programming Languages

I have an expertise in the following programming languages: C/C++, Python, Smalltalk, specially the Pharo implementation.

## Technologies

I am familiar with the following technologies:

- OpenCL.
- Modern OpenGL graphics API.
- Vulkan low-level graphics API.

## Languages

- Spanish (native speaker).
- English (fluent).

## Other personal projects

I am working in the following personal projects:

- VirtualGPU. A domain specific language for programming the GPGPU in Pharo.
- AbstractGPU. An abstraction layer above low-level graphics APIs. This is the base for Woden 2.