Gonzalo José Carracedo Carballal

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You can have a copy of my public key.

Education

École Centrale Paris - ENSTA - INSTN - Maison de la Simulation

2012-2013 Master's degree in Modelization and Simulation (*Master M2S Modélisation et Simulation*), via Erasmus scholarship

- 60 ECTS credits
- Modelization of wave propagation
- Problem decoupling for distributed computing
- Optimization without gradient
- Plasma physics and astrophysics
- Scientific computing

Some video samples on work done (as course exercices) during this period: large scale structure simulator, FFT gravitational potential, parallelized finite volumes with MPI

Universidade de Santiago de Compostela

2011-2012 Master's degree in Mathematical Engineering (*Máster en Ingeniería Matemática*)

- 90 ECTS credits (60 ECTS first year, 30 ECTS second year)
- Numerical methods
- Finite Elements Method for Partial Derivative Equations (PDE)
- Mathematical methods for Electromagnetism
- Parallel calculus, distributed computing

Universidade da Coruña

2007-2011 Technical Engineering in Computer Systems (*Ingeniería técnica en informática de sistemas*)

- 227.5 ECTS credits
- Final project: Predictor system for Earth ionosphere reflectivity conditions en HF propagation (*Sistema de predicción de las condiciones de reflectividad de la ionosfera terrestre y propagación en HF*). Sources here.
- Covered fields: Artificial Intelligence and cognitive science, Operating Systems, Computer Security, Computer Graphics and User Interfaces, Network management.

Courses and trainings

- **March 2014:** CORELAN Training - Win32 Exploit Development Bootcamp (in RootedCON 2014)

Working experience

- **2015-now:** Software engineer at Real Time Innovations
- **2013-2014:** Junior pentester at Tarlogic Security
  - Developer of Acarus APT
- **2013:** Internship at INRIA: wave propagation task for project Iodissee. Report (in French) can be downloaded here.

Awards

- Extraordinary Award by Universidade da Coruña
- Xtrelan 2011's Hackcontest first place award
- 7th position in DEFCON 18 CTF quals (as a member of painsec)

Publications

- Linux binary infection (Spanish, *Infección de ejecutables en Linux*), colaboration for SecurityByDefault. Chapters #1, #2, #3, #4, #5, #6.

Languages

- **Spanish** (native language)
- **Galician** (native language)
- **English** (TOEFL iBT 95/120)
- **French** (DELF B2)
- **Esperanto** (Beginner)

Computer knowledge

- **General purpose languages:** C/x86 ninja, familiarized with other languages such as C++, Java and Python (ability to learn a new language within a week if required)
- **Math languages:** Matlab, Fortran, Lua (Torch)
- **Web languages:** HTML, XML, CSS, PHP, JavaScript
- **Database languages:** MySQL, SQLite
- **Software libraries and technologies:** GTK, SDL, OpenGL, GSL, OpenMP, MPI, CUDA
- **Operating systems:** GNU/Linux, Sun Solaris, *BSD and Unix in general, Microsoft Windows
- **Artificial neural networks and machine learning:** MLP, Self-Organizing Maps (SOM), Growing Neural Gas, LSTMs and convolutional nets. Some experience with ID3 decision trees
- **Security:** Reverse engineering, vulnerability exploitation (Windows, Linux and BSD)

Current projects (browse all)

- Biteye & Vix, the Visual Interface heXadecimal dump
- Building a composite video source from a Renesas Demonstration Kit YRDKRX62N (in Spanish)
- Atomik Microkernel
- OpenGL 2D PDE solver via Finite Elements
- HNNet: the Hackable Neural Network library in Lua/Torch
- pbot: customizable IRC bot
- projectman: an extensible project tree structure generator in C
- objtool: tool for generating code templates for object-oriented C programming and abstract data types
- Additional projects not listed here can be found at my GitHub page