

CURRICULUM VITAE

Rubén Colomina Citoler

C++ Developer

PERSONAL
INFORMATION

Adresse

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TECHNICAL SKILLS **Programming languages**

C++(STL/BOOST) , Java , ANSI-C , VBA — Linux Bash Scripting , Octave , R-gnu ,
L^AT_EX — Html/Css , JScript , PHP — CLIPS, OCaml, Prolog — Cobol , PL/SQL , F90.

Informatics Applications

Mathematica, Matlab, R-Statistics, SPSS, 3D-Studio, Microsoft Office — Linux: GDB
, DDD , Cvs , Emacs , Ssh , Subversion , Makefile.

Telecommunication Protocols

Bitcoins Protocol , Bitcoin Exchange Kraken API-C++ , Interactive Brokers API-C++
, R-Gnu , Matlab , API-PHP Paypal , Ethernet TCP/IP , ARINC 429/743 , RS-232

Interfaces with Electronic Devices

Flight Navigations Systems: CMA9000 , Garmin 430W/530W (WAAS Capable) — He-
licopter Moving Maps systems for geopositioning and survey — Arduino platform —
Kinect hacking.

Operating Systems

GNU/Linux , Unix , Z/OS , Android , Windows

General Computers Algorithms

Cryptography: PGP Public and Private Key , Proof-of-work, Hash functions — Machine
Learning: Logistic Regression, Neural Networks , SVM, KNN — Paradigms: Imperati-
ve, OOP, Functional and Logic — Sorting and path finding optimization problems —
Dynamic programming and Backward inductions — Constraint satisfaction problems
— Unit testing and re-factoring software.

Specific Computers Algorithms

Trading Systems : Pair Trading — Developing physics and maths libraries for helicopter
simulations. — Developing electromechanics simulation: Hydraulic, Electrical, Force
Feedback controls. — Filtering with PID programming and control theory applied to
simulate autopilots. — Astrodynamics and satellite tracking for GPS simulation.

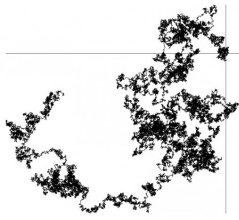
PROFESSIONAL
EXPERIENCE

■ **October 2014 - Present**

Company: INDRA Systems S.A.

Job Position: Software Engineer.

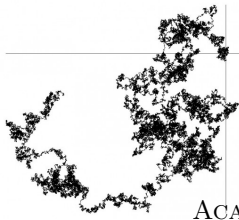
Tasks: Code re-factoring, solving incidents and testing in an embedded software of
a Secondary Surveillance RADAR.



- **July 2012 - October 2014**
Company: INDRA Systems S.A.
Job Position: Software Engineer.
Task: Design, implementing and testing software for a network of computers and hardware devices of a tactical submarine simulator system.
- **May 2011 - June 2012**
Company: INDRA Systems S.A.
Job Position: Integration Test Engineer.
Tasks: Incidents reporting, Integration testing and Computer Network testing for software and hardware devices of a submarine simulations system.
- **June 2008 - April 2011**
Company: INDRA Systems S.A.
Job Position: Software Engineer.
Tasks: Design and implementing software models related with physics and electro-mecanical systems for helicopters simulators systems. Solving incidents.
- **Feb 2007 - May 2008**
Company: GETRONICS.
Job Position: Software Programmer.
Tasks: Analisis, developpement and maintenance of a bank credit card application using COBOL/CICS/DB2/UNIX/ORACLE technologies.
- **Feb 2006 - Jan 2007**
Job Position: Maths & Statistics Professor.
Tasks: Teaching at bachelor and university levels.
- **Jul 2005 - Jan 2006**
Company: Kíron.
Job Position: Finantial advisor.

EDUCATIONS

- **2010 Oct - 2013 Jun**
Title: PostDegree
Area of Study: Statistics and Research Operational
University: **UNED**, Madrid, SPAIN
- **2006 Oct - 2007 Mar**
Title: PostDegree
Area of Study: Educational Science
University: **Universidad de Zaragoza**, Zaragoza, SPAIN
- **2003 Sep - 2004 Jul**
Title: Erasmus
Area of Study: Computer Science
Specialist: Artificial Intelligence, Logic and Computer Languages
University: **ESIEA**, Paris, FRANCE
- **1997 Oct - 2006 Sep**
Title: Master Degree
Area of Study: Applied maths
Specialist: Analitical, Numerical and Computational methods
University: **Universidad de Zaragoza**, Zaragoza, SPAIN



ACADEMICS
PROYECTS



- **2006** Design and implementing software to solve a Runge Kutta numerical method using Fortran programming language.
- **2004** Design and implementing software to simulate a virtual environment of solar system using real data astrodynamics calculations and Java 3D programming language.
- **2004** Refactoring a backgammon game using Microsoft VBA and CLIPS by neural networks.
- **2004** Design and implementing software to explore the whole search space of a TIC-TAC-TOE game using Caml programming language.
- **2003** Design and implementing software to build a whole chess game using C programming language.
- **2001 to 2003** Take part of the SSETI program funded by ESA (European Space Agency) into an collective European universities to build a micro satellite project and working on the analysis mission team.
- **2002** Take part of the fifth parabolic flight for students funded by ESA. The objective was to conduct a fluid mechanics experiment of micro-gravity on board of an Airbus-300 property of Novaspace company.
- **2001** Design and implementing software to build an Astrodynamics Solver of well know two bodies problem using the Kepler Equation and a Newton numerical method and programming with Microsoft Visual Basic.

RESEARCH
INTERESTS

Cryptography, Stochastic Process applied to Finance, Apply game theory, Astrodynamics algorithms, Optimal Stopping problems, .

PUBLICATIONS

R. Colomina Citoler.

Orbital controller: Numerical Solution of the two bodies problem by the Kepler equation. Student Book, European Student Programme to the 53rd IAF Congress, 10-19 October 2002, Houston, Texas, USA (ESA SP-523).

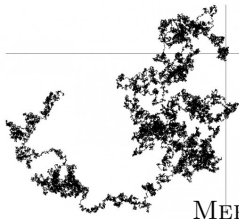
Astrodynamics - Attitude Control.

LANGUAGES

Idiom	Read	Written	Spoken
Spanish	High	High	High
English	High	High	High
French	Middle	Middle	Middle
Portuguese	Middle	Middle	Low

OTHER
FORMATIONS

- **Jul 2005** Negotiation course about business bank products. (90 hours)
- **Mar 2005** Stock markets course (15 hours) about Options and Futures (15 hours) followed in Economic's faculty of Zaragoza and taught by GAESCO A.S.
- **May 2003** XVIII Course conference: Extragalactic space and space missions (10 hours).
- **Apr 2002** Exposition guide: "Mathematics in quotidian life". 800 pupils. .



MERITHS



- **Oct 2002** ESA scholarship to participate in Houston World Space Congress Congreso.
- **Dec 2000** Prize of mathematical picture directed by Science's Faculty UNIZAR.

HOBBIES

- Board games, video games and recreational mathematics.
- Investment securities.
- Swimming, hiking and Cinema.