

PERSONAL DETAILS

Address: Maenhoutstraat 61
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Date of birth: 19/05/1978
Place of birth: Ghent (Belgium)
Citizenship: Belgian
Driver's license: B
Education: Ph.D., M.Sc.



PROFILE

A devoted individual with a long-lasting love for programming, especially for low-level work, network technology and digital signal processing algorithms. Team player with managerial skills.

PROFESSIONAL PROFILE

- Analytical thinker, problem solver, mathematical mind
- Good presentation and teaching skills
- Functions well in a team or independently
- Experience with project management as project leader of large projects
- Languages: English – fluent; Dutch – fluent; French – good
- Fluent typing skills
- In-depth ict knowledge

TECHNICAL SKILLS AND KNOWLEDGE

- 20 years of programming experience
- 10 years of C/C++ programming
- 4 years of development in Matlab
- 1 year of vhdl design
- Development platforms: pc (Windows, Linux, Mac OS X), dsp (Analog Devices Sharc), microcontroller (Analog Devices Blackfin), fpga (Xilinx)
- Design on embedded platforms
- Development utilities: Visual Studio, Eclipse CDT, version control systems, Xilinx ISE, ModelSim, EZ-KIT Lite, ...
- Familiar with: UML, Java, Tcl, Unix shell scripting, LATEX, assembly, Photoshop, Dreamweaver, Visio, POV-ray, html/css, Flash, LAMP, WAMP...
- Network technology and security concepts and implementation
- Operating system internals
- Active Linux kernel development: ±4000 loc in the official kernel
- Linux expert
- Digital signal processing
- Code maintenance, optimization and debugging
- First-hand experience with drafting patent applications

PROFESSIONAL EXPERIENCE

07/2009 – present

Owner — Art in Algorithms, Sint-Martens-Latem, Belgium

Freelance software engineer and consultant. See <http://www.artinalgorithms.be>

Key domains of expertise:

- TCP/IP network protocol development
- Digital signal processing
- Linux system development
- Embedded programming
- Algorithm design

Focus on design and implementation in:

- C/C++
- Assembly
- Vhdl
- Matlab

Reference:

Guillermo Ibáñez Fernández, Associate Professor, University of Alcalá de Henares, Madrid, Spain
(guillermo.ibanez@uah.es)

11/2005 – 03/2010

Senior Development Engineer — Televic, Izegem, Belgium

- Design and implementation of signal processing algorithms on pc and embedded platforms (dsp, microcontroller and fpga).
- This includes adaptive feedback cancellation algorithms, the Bluetooth subband codec, packet loss concealment, speeding up/down of speech while preserving pitch, microphone array steering.
- Cover the complete design and implementation process of industrial grade software: from experimentation on pc (e.g. in Matlab) to real-time implementation in C/C++ (including assembly optimization) or vhdl.
- Coordination of and participation in several research projects in cooperation with academic and industrial partners. Experience as project lead of a successfully finished multimillion research project.

12/2001 – 10/2005

Ph.D. Student — Ghent University, Gent, Belgium

- Taught exercises for various courses (software design and mathematics) to university students.
- Conducted research in order to obtain a Ph. D. in Mathematics, in the field of probability and game theory. My public defense took place on June 3rd, 2005.
- Authored multiple articles in international journals.
- Gave lectures at international gatherings.
- Kept in touch with the practical side of computer science by developing and maintaining the widely used firewall tool *ebtables* for Linux.

8/2001 – 11/2001

Software Engineer — Alcatel Bell, Antwerpen, Belgium

- Implementation of a layer between the network processor and the higher-level software for an IP core router.
- Detected and corrected numerous bugs (C++) and wrote dozens of test cases (Tcl).

EDUCATION

- Ph.D., Mathematics, June 3rd 2005. Dissertation: “Comparing Random Variables from a Game-Theoretic Perspective”
- M.A., Computer Science, Ghent University, major: Information and Communication Technology, 2001. Dissertation: “Firewalls: netfilter”
- Additional courseware and professional development:
 - “TCP/IP Essentials”, Telindus
 - “VHDL for FPGA design”, Doulos
 - “Project Management for team Members”, Threon
 - “Communicatievaardigheden voor professionals”, Kluwer Opleidingen
 - “Vergaderen: snel en resultaatgericht”, High Performance People N.V.

LEISURE ACTIVITIES

- Linux kernel development (networking). Author of the tools *ebtables* and *arptables*, which are part of the standard Linux firewall tools. Co-author of the *bridge-netfilter* code in the Linux kernel, the key software necessary to obtain a transparent bridging firewall and brouter with Linux. Years of experience with code maintenance, networking and security.
- Mathematics, books, music, graphics design
- Bujinkan, running, hiking, snowboard