

# Dimitrios Meintanis - CV

Last update 10 March 2018

## Summary

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I have a Ph.D. in the field of Electronics and Computer Engineering and a M.Sc. on Computer Architecture & Digital Systems. I have worked with hardware and software development for embedded systems since 2001. My main fields of competence are analog/digital electronics hardware design as well as low level software design for embedded systems. My specialist competence is my ability to manage the complete design process of an electronic product, from product idea to fully industrialized one.

My objectives are to work with both hardware and software design in projects targeting demanding embedded and real-time systems and to continuously expand my knowledge.

I am primary interested on Hardware System Design of complex and demanding embedded applications. My focus is on simplicity, performance and product compliance.

## Competence

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Experience Summary	<ul style="list-style-type: none"><li>• 15+ years of experience on hardware and software development, including FPGA/ASIC design, analog/digital PCB design, microcontroller programming as well as Linux device drivers and low level software design for embedded systems</li><li>• 9+ years of experience on full product designing, from product idea to fully industrialized product, on both Software and Hardware parts.</li><li>• 4+ years of experience on AC/DC and DC/DC Power Converters.</li><li>• 4+ years of experience on Motor Control</li><li>• 2+ years of experience on the full digital ASIC design flow (from specifications to silicon chip layout)</li><li>• 4+ years of experience on academic research on Cryptography and FPGA designing and Real-Time FPGA Reconfiguration.</li><li>• 3+ years of experience on importing boot loaders and Linux kernels on embedded real time systems.</li><li>• Basic RF knowledge with application on High Speed PCB design, Signal Integrity and Analog/Digital System integration</li><li>• EMC measurements and solutions</li><li>• Strong background on mathematics, algorithms and mathematical tools.</li></ul>
Industrial competence Operating systems	Industrial, Consumer Windows, Unix/Linux, RT Linux, FreeRTOS
Hardware tools	Altium Designer, Cadence OrCAD/PCB Layout, Mentor PADS, Altium PCAD, Cadence Spectra, Xilinx ISE/EDK/PlanAhead, Altera Quartus II, Matlab, Mentor Hyperlynx, LT Spice
CAD tools	AutoCad Electrical, Autocad Inventor
Software tools	Code Composer Studio, Visual Studio, Borland C++ Builder, AVR&ARM gcc, AVR Studio, Keil uVision3, QT Creator, Windriver Development Suite, Android SDK, Eclipse Java Developer
ASIC tools	Mentor Modelsim, Synopsys Design Analyser, Cadence NC tools, Pearl, Design Planner, Silicon Ensemble, Chip Assembly Router
Programming languages	Excellent: C, C#, Pascal, Qt, VHDL, Verilog Good: C++, RISC/486 Assembly, Prolog, Fortran, LaTeX Familiar: Tcl/Tk, SQL, Php, HTML, UML, Java

Instruments                      Digital Oscilloscope, Logic Analyzer, Spectrum Analyzer, Vector Network Analyzer, Signal Source Analyzer, Smartbits Traffic Generation & Analysis, Signal & Pattern Generator, etc

## **Assignment experience**

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- 2017-2018                      Electronics Engineer, Husqvarna Construction Products AB**  
IoT RF module design. My tasks included RF layout and verification, impedance matching and power measurements. Production Test specifications and support
- 2013 - .                      Electronics Engineer, Husqvarna Construction Products AB**  
Product maintenance. Obsolete components, design updates and verification
- 2013-2014                      Electronics Engineer, Husqvarna Construction Products AB**  
Part of the design team of the PG820RC remote controlled floor grinding machine. My tasks included schematic review, schematic and layout design. Hardware verification and documentation. Technologies used: DC/DC, BLDC motor control, torque motor control
- 2012-2013                      Senior Embedded Systems Designer, Consultant, Altran AB**  
I worked on the Mini-link project of Ericsson AB in Mölndal. I was part of the software team to implement the L1 and L2 functionalities of the Minilink PT1.5 Product. This included both Customer and Provider Bridge implementations.  
My tasks included Linux kernel drivers, Kernel Level Profiling, RT linux programming, C & C++ programming and debugging, verification and testing.
- 2012-2013                      Senior Embedded Systems Designer, Consultant, Altran AB**  
I was assigned to develop the embedded C code for an automotive welding machine. My tasks included coding, debugging, verification and documentation.  
Technologies used in this project were FreeRTOS and Embedded TCP/IP stack.
- 2011-2012                      Hardware and Software Designer, Consultant, i3TEX AB**  
I worked on the Mini-link project of Ericsson AB in Mölndal. I am part of the digital hardware team to implement and develop the new and state of the art, Single & Dual Carrier modem boards.  
My tasks included Schematic and Layout changes/reviewing, debugging, verification specifications, documentation and digital signal validation. I also developed the low level software for the hardware team in order to verify the hardware without the complexity of the software layers. I was the link of the hardware team with the software groups and I helped with the software integration and the debugging of various device drivers.
- 2010-2011                      Hardware and Software Designer, Consultant, i3TEX AB**  
I was assigned to design and implement the digital control unit of a universal motor system. My tasks included Documentation, System design, PCB and Schematic design, DSC (Digital Signal Controller) programming, High level C# programming.  
Soldering and debugging of the final PCB was also in my tasks. Induction Motor control algorithm implementation.
- 2008-2010                      Hardware and Software Designer, B.S.K-Defense SA**  
I was assigned to design and implement all company's electronic products. Autopilots for Target Drones and U.A.Vs, G.C.S (Ground Control Station) and Turbine Engine E.C.Us. I was responsible for the hole product cycle of both hardware and software parts.  
Specifications, designing, constructing, debugging, verification, testing and documentation.  
I designed demanding analog and digital PCBs, programmed time critical embedded processors, programmed FPGAs and I also developed the higher application level control programs in Qt/C++ on Linux environment. I developed new demanding algorithms for gyroscope stabilization and I also designed and implemented a custom, real time (TDM), RF digital modulation modem.  
Main technologies used: Arm/Atmel micro-controllers, Xilinx FPGAs, Linux, Accelerometers, Gyroscopes, Magnetometers
- 2007-2009                      Hardware and Software Designer, Intracom SA**  
I was responsible for the specifications and the design of the digital hardware part, on a Lab-on-a-Chip, DNA extraction, medical equipment (European project Micro2DNA, FP6-IST-4-027333-STP). I designed and implemented the embedded processing unit of the medical device. PCB design, soldering, debugging and time critical C/C++ programming for the embedded processor. I imported the Linux OS to the embedded ARM processor and I also implemented an I2C Linux device driver for the communication with the ADCs, DACs, GPIOs of the analog PCB.  
Documentation and test reports.

- 2001-2004**                    **Hardware and Software Designer, Ellemedia Technologies SA**  
 I was assigned to design and build a Residential Gateway, PBX expansion board. PCB schematics/placement/routing, soldering, debugging, VHDL coding, Linux device drivers, ISDN NT&TE Linux device drivers, telephone SLICS Linux device drivers (Vinetic Chipset, Infineon). I designed a complete solution of a residential home VoIP PBX, with internal/external ISDN terminals, telephony terminals and voice compression. I also developed many demanding Linux device drivers for telecom (MPC8260 ATM driver, MPC8260 TDM driver, etc), all successfully tested at the interoperability lab of Lucent Technologies in USA. On the meanwhile I was also responsible for the design of a high speed UTOPIA16 backplane, as well as for the import of the boot loader and the Linux kernel on the system. Documentation and test reports. I was also assigned to design and implement an ASIC sub-block of a Wide-band Modem (scheduler) (Vhdl coding, testing, pattern generation, time analysis, technology cells routing, etc)
- 2000-2001**                    **Hardware Designer, Foundation of Research and Technology, Hellas (FO.R.T.H)**  
 I was responsible for the design, implementation and verification of various IP cores on a high speed FPGA device. I designed custom PCBs, used for testing purposes, and custom communication protocols, used for data transfers between the FPGA and the PC. I also implemented the necessary Linux device driver and control applications. Documentation and test reports.

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### Professional experience

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- 2013-**                         **Electronics Engineer, Husqvarna Construction Products AB**  
 I am currently working as an Electronics Engineer at Husqvarna Construction Products in Jonsered, Sweden.
- 2012-2013**                 **Hardware and Software Designer, Consultant, Altran AB**  
 I was working as a senior hardware and software engineer consultant at Altran Technologies AB. Company in Göteborg, Sweden.
- 2010-2012**                 **Hardware and Software Designer, Consultant, i3TEX AB**  
 Working as a hardware and software consultant at i3TEX AB. Company in Göteborg, Sweden.
- 2008-2010**                 **Hardware and Software Designer, B.S.K-Defense S.A**  
 Full range of products specification, design and Implementation, for Target Drone Applications. Digital / Analog PCB design, PCB soldering/debugging, Low level C/C++ for autopilots/ground control stations. AVR & ARM micro-processors, Communication Protocol Specification/Implementation, FPGA prototyping, RF digital modulation, Modelsim modeling, Verification, Testing.
- 2007-2009**                 **Hardware and Software Designer, Intracom SA**  
 Product specification, designing. Linux Device Drivers implementation, Digital PCB design, PCB soldering/debugging, Low level C/C++ for time critical medical embedded equipment. Communication Protocol Specification/Implementation
- 2001-2004**                    **Hardware and Software Designer, Ellemedia Technologies SA**  
 Product specification, designing. Linux Device Drivers implementation, Digital PCB design, PCB soldering/debugging, EMC testing, Low level C++ for embedded systems. Specification, ASIC design flow, prototyping with FPGAs, verification, validation and software design in C/C+. Kernel import on embedded processors.
- 2000-2001**                    **Hardware Designer, Foundation of Research and Technology, Hellas (FO.R.T.H)**  
 Implementing IP cores in FPGAs. Digital PCB schematics, PCB debugging and Linux Device Driver implementation.

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## Education, training & qualifications

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### Basic & further education

- 2012 Ph.D in the field of Electronics and Computer Engineering, Technical University of Crete, Greece  
Thesis: Hardware and Software Development for the Efficient Mapping of Mathematical Problems on Field Programmable Gate Array Systems
- 2001 M.Sc on Computer Architecture and Digital Systems, Computer Science Department, University of Crete, Greece  
Thesis: Software Import and Hardware Conversion to an Embedded Microprocessor board.
- 2000 B.Sc on Mathematics, University of the Aegean, Greece  
Thesis: An intelligent authoring tool for adaptive presentation information over the WWW

### Professional & vocational training

- 2002 Asynchronous Circuits, Tima Laboratory (ACID), Grenoble, France
- 2012 ESD Course, Ericsson Academy, Göteborg, Sweden
- 2017 Course on EMC and Hardware Design
- 2016/2018 Cadence OrCad, PCB Designer, Pspice Course

### Distinctions

- 1998,1999,2000 3 Scholarships from the N.I.S (National Institute of Scholarships), Greece
- 1998,1999,2000 4 Scholarships of excellence from the N.I.S (National Institute of Scholarships), Greece
- 1998, 1999,2000 3 Scholarships of excellence from the University's Local municipality
- 2000 Graduated from the University of Aegean in 3 years (4 years nominal)
- 2001 Graduated from the University of Aegean ranked No1, with grade 7.56/10
- 2001 Research scholarship from the Foundation of Research and Technology (FORTH), Greece

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## Research Publications

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- D. Meintanis, K. Georgopoulos, I. Papaefstathiou, "FPGA power consumption measurements and estimations under different implementation parameters", *International Conference on Field-Programmable Technology 2010 (ICFPT'11)*, December 12<sup>th</sup> – 11<sup>th</sup>, 2011, New Delhi, India
- D. Meintanis, I. Papaefstathiou, "A Modular Partial Reconfigurable System for Factorizing Large Numbers Over GF(2)", *International Conference on Field-Programmable Technology 2009 (ICFPT'09)*, December 9<sup>th</sup> - 11<sup>th</sup>, 2009, Sydney, Australia
- M. Platsis, I. Papaefstathiou, D. Meintanis, "Design and Implementation of an UWB Digital Transmitter Based on the Multiband OFDM Physical Layer Proposal" *IEEE/IFIP International Symposium on Rapid System Prototyping IEEE RSP 2009*, June 23-26, 2009, Paris, France
- D. Meintanis, I. Papaefstathiou, "On the Power Consumption of security algorithms employed in wireless networks", *6th Annual IEEE Consumer Communications & Networking Conference IEEE CCNC 2009*, 10-13 January 2009 in Las Vegas, Nevada
- D. Meintanis, I. Papaefstathiou, "Power consumption estimations vs measurements for FPGA-based security cores", *International Conference on Reconfigurable Computing and FPGAs 2008 (Reconfig'08)*, December 3<sup>th</sup> - 5<sup>th</sup>, 2008, Cancun, Mexico
- G.Kornaros, D.Meintanis, Y. Papaefstathiou, S.Chantzandroulis, S. Blionas, "Architecture of a Consumer Lab-on-Chip for Pharmacogenomics", *IEEE International Conference on Consumer Electronics (ICCE'08)*, Jan 11-13, 2008, Las Vegas
- D. Meintanis, I. Papaefstathiou, "An efficient FPGA-based implementation of Pollard's ( $\rho$ -1) factorization algorithm", *International Conference on Field-Programmable Technology 2007 (ICFPT'07)*, December 12<sup>th</sup> - 14<sup>th</sup>, 2007, Kitakyushu, Japan

## Job References

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Mikael Duvander, i3TEX A.B, Embedded Systems, HW &SW Department, (<http://www.i3tex.com/>)  
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More references are available upon request.

## Personal information

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Personal qualities I would characterize myself as a friendly, effective, creative and solution oriented person. Committed and reliable co-worker who enjoys teamwork as well as helping others. I have a thirst for new knowledge, I am fond of new challenges and I am comfortable on taking great responsibility for my work.

Hobbies & interests My biggest passion is mountaineering and ice/rock climbing. I also like speleology, skiing, paragliding, scuba diving, sailing and mountain bike. I enjoy cinema, theater and long duration discussions/activities with my friends.

Languages Greek (mother tongue), English (fluent, both spoken and written), Swedish (fluent, both spoken and written)

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Status Married  
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