

# IOANNIS AGADAKOS

Electronic and Computer Engineering, Dipl, MSc .  
Microelectronics and Hardware Lab  
Department of Electronic and Computer Engineering  
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## EDUCATION

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- **Master of Science**

Department of Electronic and Computer Engineering, GPA : 4.0. (10.0 out of 10.0)

Technical University of Crete, Chania, Greece. Class of 2010.

Research Topic: " A Heterogeneous System Approach To The Real Time Stereo Problem."

Brief Description: " Solving the stereo vision challenge using an embedded heterogeneous system OMAP3530, composed of a DSP and a ARM9 CPU. By designing and implementing an innovative server-client inter-processor architecture while also applying advanced principles, such as heterogeneous programming and exploiting the SIMD architecture of the DSP, we managed to perform real time stereo depth map generation up to 40 FPS on the DSP while having the CPU free for other process intensive operations."

Supervisor: Associate Prof. Yiannis Papaefstathiou

- **Diploma** (5-year program)

Department of Electronic and Computer Engineering,

Technical University of Crete, Chania, Greece, Class of 2001

Thesis: " Design and implementation of a GSM,IP enabled smart environment system, for building control and monitoring. Based on the embedded platform Ethernut with the real time system Nut/OS."

Brief Description: " A low cost smart system for controlling and monitoring buildings remotely.

Supervisor: Associate Prof. Yiannis Papaefstathiou

## AFFILIATIONS

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- IEEE Member
- Member of Technical Chamber of Greece

## WORK EXPERIENCE

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As an engineer i have worked in variety of fields, ranging from the embedded to the web enterprise level, thus allowing me to create holistic complicated systems from the ground up.

In a **nutshell** : *Software engineer* in **Intralot** for 3 years developing mainly in **Java2ee**, Web technologies and Java. While pursuing my Masters degree i worked as a teaching assistant, also during that time i worked as a *private contractor* and i was involved in a number of research projects. Lastly i currently work as a *researcher* in the **Geo-Informatics Lab**.

In more **detail**:

1. 2012-now, Researcher at the Geo-informatics Lab under Dr. Panagiotis Partsinevelos, where i work in the Atlantas project. In this project the goal is to create a table capable of presenting 3D geographical data through a volatile mechanical surface that forms a 3D representation of Geographical Data in real time, to illustrate texture and non geographical data projections of video are used with the draping technique. My role is creating the software that will project the 3D model on the surface as well as leading the team that creates the interface between the computer and the robotic table.
2. 2013-now Supervise 4 undergraduate and 2 postgraduate students in the Geo informatics lab.
3. 2013 Design and Implementation of a web based GIS application that integrates GIS high risk data from Private and Public sector companies in order to produce secure answers to construction engineers concerning the presence of high risk pipelines. This project also led to a publication in SCUCA 2013.
4. 2013 Design and Implementation of a live streaming web application that applies computer vision algorithms to input videos over network.(Ongoing)
5. 2013 Design and Implementation of a network of trans-impedance analyzers ranging up to 200Khz, controlled by a Raspberry node. This research project is ongoing under prof. Providakis, in Technical University of Crete.
6. 2011 Teaching assistant in Embedded Systems, where i supervised all the teams working in heterogeneous systems.
7. 2008-2011, Software Engineer of Multimedia **R&D department of Intralot**. During my employment there i was the lead engineer for the Horizon Monitor and Control Platform, an interface that was able to monitor and control thousands of terminals in real time utilizing web technologies. Moreover due to my specialty in real time and high performance computing, i also maintained and developed the control engine system that run on the terminal level, where i improved robustness and performance. During my 3 years in the company, besides the aforementioned and other engineering challenges, i served as the company's launch representative and engineer in several projects where i supervised and installed the Horizon platform, specifically in the projects of Vermont(USA) and Amsterdam( Holland ). Lastly i also co-designed the system solution for the Chongqing(China) project. The main technologies i used where Linux, Java technologies (J2EE and JSF), and databases( SQL), with the emphasis on JSF and Enterprise Java.
8. before 2008. During my time as a student and before Intralot i worked in a number of IT occupations ranging from IT support in Business Logic to Administrator of the Computer Vision lab.

## OTHER EXPERIENCES

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1. 2011-2012, Army Service; Mandatory in Greece, once called upon. I served in the Command Corps and

was positioned in 79 National Guard Unit in the island of Samos.

## CONFERENCE PUBLICATIONS

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1. Yiannis Agadakis, Konstantinos Makantasis, Panagiotis Partsinevelos, Georgios Papadakis, Anastasios Doulamis, "Safe urban growth: An integrated ICT solution for unstandardized and distributed information handling," 2013 IEEE 14th International Symposium on "A World of Wireless, Mobile and Multimedia Networks" (WoWMoM), pp. 1-6, 2013 IEEE 14th International Symposium on "A World of Wireless, Mobile and Multimedia Networks" (WoWMoM), 2013
2. "A heterogeneous System Approach to the Stereo Vision Problem", Master Thesis pending publication.

## RESEARCH INTERESTS

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- Design and Implementation of Embedded ,Real time systems.
- Computer Vision, mainly stereo vision.
- High performance computing
- Tangible interfaces, through computer vision and advanced sensors.
- Application specialized architectures such as CUDA,FPGA,DSP to hard problems.
- Distributed systems and Web Technologies for smart environments.

## TECHNICAL SKILLS

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- Embedded Systems: Real-time systems design and prototyping ( Atmel ATmega MCUs, TMS320 DSP's, FPGA, GUMSTIX,RASPBERRY and various other embedded linux ), Software/Hardware codesign for FPGAs (Xilinx ISE/EDK, Altera MaxPlus II).
- Programming Languages/Software Development Tools: C/C++, Java, .Net, C#, Corba, Web technologies such as Ajax, HTML etc, Java2ee and the various presentation technologies such as JSF, JavaScript, Python, bash scripting, SQL, DBXML, XPATH, flex, bison. and others..
- Application Software: T<sub>E</sub>X (L<sup>A</sup>T<sub>E</sub>X, B<sup>B</sup>T<sub>E</sub>X), Microsoft Office, OpenOffice, Latex and many more...
- Computer-Aided Design Tools: CadSoft Eagle, SPICE/PSPICE, Magic VLSI, National Instruments Electronics Workbench, Autodesk AutoCAD, PTC Pro/ENGINEER.
- Software Development Tools: Mathworks MATLAB, Microsoft Visual Studio, Eclipse IDE, Unity.
- Geographical Information Systems: ESRI ArcGIS, Quantum GIS, UMN MapServer.
- Operating Systems: Microsoft Windows, Linux.

## SELECTED COURSEWORK

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- Neural Networks and Applications (Undergraduate)  
Instructor: Prof. M Christodoulou, Grade: 9.0/10.0.
- Distributed Artificial Intelligence and Multi-Agents Systems.(Postgraduate)  
Instructor: Prof. N.Matsatsinis, Grade: 10.0/10.0.
- Microprocessor-Based Embedded (Undergraduate) .  
Instructor: Prof. A. Dollas, Grade: 9.0/10.0 .
- High Performance Architectures (Graduate)  
Instructor: Assistant Prof. Y. Papaeystathiou Grade: 10.0/10.0
- Distributed Systems (Graduate)  
Instructor: Assistant Prof. V. Samoladas, Grade: 10.0/10.0.

## LANGUAGES

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- English    Excellent, University of Michigan, Certificate of Proficiency in English.  
TOEFL score 107, test taken on 2013
- German    Goethe Institute, A Level.
- Greek     Native Speaker.

## OTHER INTERESTS - EXTRA CURRICULAR ACTIVITIES

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- 2007-2008, Trip around Europe from Greece to Poland and down to Holland and England, with all the countries in between. I value this experience and the experience gathered in my travels since, as equally important to other skills or knowledge.
- TUC fantasy,fiction, board-games and role-playing Team.
- Lead of Microsoft Student Team.
- Physical Activities : boxing, weightlifting and adventurous pursuits such as hiking and camping.
- Misc: Movies, socializing, cooking.

## REFERENCES

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- **Apostolos Dollas**  
Professor, Microelectronics and hardware lab head, Dean of the School  
School of Electronics and Computer Engineering  
Technical University of Crete  
e-mail: `dollas@ece.tuc.gr`
- **Yannis Papaefstathiou**( Supervisor )  
Associate Professor, Microelectronics and hardware lab  
School of Electronics and Computer Engineering  
Technical University of Crete  
e-mail: `ygp@mhl.tuc.gr`
- **Panagiotis Partsinevelos**( *Research Lead, current employer* )  
Assistant Professor, Geoinformatics lab  
Technical University of Crete  
e-mail: `ppartsi@mred.tuc.gr`
- **Kostas Kalaitzakis**  
Professor, Electronics Department  
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- **Haralambos Karathanasis**  
Director of Multimedia Department,(previous employer )  
INTRALOT S.A., POS Solutions and Multimedia Division  
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