

# IOANNIS AGADAKOS

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## *SUMMARY:*

- Results-driven **industry** experience with a 5 year track record for commended performance in both embedded software and enterprise applications. Working experience in object-oriented programming
- Academic research leading to peer reviewed publications in multiple areas of computer science
- Currently working in two areas: **Control Flow Integrity**, **Authentication** and **Privacy**
- Well versed in all phases of the software development/design lifecycle, with a strong working knowledge of algorithms and data structures
- Proven success in engineering customized solutions improving business processes, operations and profitability
- Experienced in a variety of fields, ranging from the embedded to the web enterprise level, which allow me to create holistic complicated systems from the ground up
- Have seamlessly and successfully worked with a plethora of teams with different backgrounds

## *EDUCATION:*

### **STEVENS INSTITUTE OF TECHNOLOGY, Hoboken, NJ**

*Ph.D. Candidate, Computer Science (December 2014-Present)*

Current GPA: 3.8 | Expected Graduation: 2018

- Privacy and security implications over IoT (Internet of Things).
- Augmenting authentication by exploiting the IoT
- Control Flow Integrity
- Advisor: Assistant Professor Dr. Georgios Portokalidis

### **TECHNICAL UNIVERSITY OF CRETE, CHANIA, Greece**

*M.Sc. in Computer Science Engineering (2010-2013)*

GPA: 4.0

Thesis title: 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.

Advisor: Professor Ioannis (Yannis) Papaefstathiou

### **TECHNICAL UNIVERSITY OF CRETE, CHANIA, Greece**

*B.Eng. (5 year Engineering Diploma) in Electronic and Computer Science Engineering (2001-2007)*

GPA: 3.5

Thesis title: The design and implementation of a GSM, IP enabled smart environment system used for controlling and monitoring buildings remotely.

Advisor: Professor Ioannis (Yannis) Papaefstathiou

## *RESEARCH INTERESTS:*

I am interested mainly in novel methods of authorization and privacy. Currently my focus is on the Internet of Things where I investigate potential usage of multiple devices in multifactor authentication, arguing that it can strengthen the state of the art. I also explore the dark side of IoT and its potential implications concerning user privacy and sensitive information leaks. Lastly on a lesser scope I work in software security investigating CFI techniques without code inflation.

Past research areas are: real time embedded systems (M.Sc. thesis), pervasive systems and smart environments. I also enjoy topics in high performance processing and investigating ways to improve software performance.

**PUBLICATIONS:** Click here (<http://personal.stevens.edu/~iagadako/research.html>)

## **RESEARCH EXPERIENCE:**

### **CYBERLAB STEVENS INSTITUTE OF TECHNOLOGY.**

*Research Assistant (12/2014 – Present) (see current research interests and publications)*

### **GEO-INFORMATICS LAB, Chania, Crete, Greece**

*Research Assistant (11/2012 – 04/2014)*

- Atlantas Project: In this project the goal was 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.
- Worked on the 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 concerned with the presence of high risk pipelines. Project led to a publication in SCUCA in 2013.
- Worked on the design and implementation of a network of trans-impedance analyzers ranging up to 200Khz controlled by a Raspberry node.
- Supervised undergraduate and postgraduate students in the Geo Informatics Lab.

## **PROFESSIONAL EXPERIENCE:**

### **INTRALOT, ATHENS, Greece**

*Software Engineer (06/2008-09/2011)*

- 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. Due to my specialty in real time and high performance computing, I was able to maintain and develop the control engine system that ran on the terminal level and improved robustness and performance.
- Served as the company's launch representative and engineer on several projects.
- Supervised and installed the Horizon platform, specifically in the projects of Vermont and Amsterdam (Holland).
- Co-designed the system solution for the Chongqing (China) project. The main technologies utilized were Linux, Java technologies (J2EE and JSF), and databases (SQL), with the emphasis on JSF and Enterprise Java.

## **TEACHING EXPERIENCE:**

### **STEVENS INSTITUTE OF TECHNOLOGY:**

- Certificate: Teaching at The College Level
- Teaching Assistant: Secure Systems

### **TECHNICAL UNIVERSITY OF CRETE, CHANIA, Greece**

*Teaching Assistant in Embedded Systems (09/2012-10/2013)*

- Instructor: Associate Professor Ioannis (Yannis) Papaefstathiou
- Responsible for supervising all teams working in heterogeneous systems.
- Supervised UAV student team in the GeoInformatics Lab.

## **TECHNOLOGY SUMMARY:**

### **Programming Languages:**

- **Working proficiency:** Java/J2EE, C

- **Familiar with:** x86, Net, C#, C++, JavaScript, Python, Bash Scripting, SQL, CUDA

**Systems:** Microsoft Windows, Linux, MAC/OS

**Embedded Systems:** Real-time systems and prototyping (Amdel ATmega MCUs, TMS320 DSP's, FPGA, GUMSTIX, RASPBERRY), Software/Hardware code design for FPGAs (Xilinx ISE/EDK, Altera Max Plus II)

**Computer Aided Design Tools :** CadSoft Eagle, SPICE/PSPICE, Magic VLSI, National Instruments Electronics Workbench.

**Application Software:** Microsoft Office (Access, Word, Excel, PowerPoint), OpenOffice, L<sup>A</sup>T<sub>E</sub>X, BibT<sub>E</sub>X

**Geographical Information Systems:** Quantum GIS, UMN MapServer

### **MILITARY SERVICE**

2011-2012 Served in the Command Corps and was positioned in the 79th National Guard Unit on the island of Samos, Greece.

### **SKILLS:**

*Languages:* English (full professional proficiency); Greek (native speaker); German (elementary proficiency)