Ilias Kanelis

Embedded Systems Engineer

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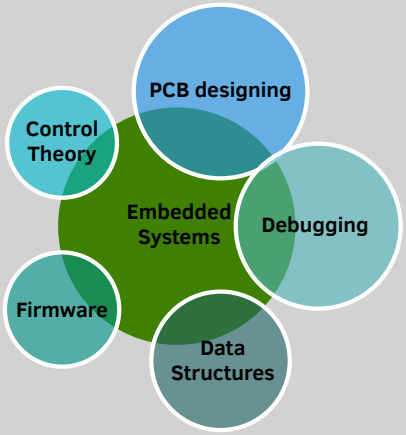
TediCreations

Skills

Overview



Programming

- C
- C++
- Assembly
- PLC Programming
- Python
- SQL

Microcontrollers

- AVR
- ARM Cortex-M
- PIC

OS

- GNU/Linux
- Windows

Summary

My main interest is embedded and mechatronic systems. I love how algorithms control machines at will. Creativity is something that comes easy with me and most of it is expressed through out my art. Innovation is something hard to achieve and I try my best to examine the new Internet of Things field for new opportunities.

Education and training

2006 - 2014 **BSc., Automation Control Engineering** (GPA: 7.23/10)
Technological Educational Institution of Chalkida, Greece
Thesis: Development of a virtual reality software library for use in SCADA systems

2013 **Seminar, NI CompactRIO and FPGA design** National Instruments

2010 **Seminar, Electrical Safety** ABB Limited

Professional Experience

2018–Now **Embedded Systems Engineer** DeepSea Technologies I.K.E.

- Developing a data acquisition network of sensors for sending vessel data to a Neural Network that predicts oil consumption, does ship monitoring and helps to optimize critical performance parameters.
- Designing electronics and programming in C and Python.

2014–2017 **Founder** "Beehive" weighting and antitheft system

- Design and manufacture of a product based on ARM Cortex-M microcontroller and sensors that help beekeepers keep track of their amount of honey, temperature, humidity and GPS status (antitheft) in beehive farming.

2015–2017 **Teacher, Part time** Efodia Karieras I.K.E.

- Preparing students for the Cambridge/Vellum Diploma in IT Skills.
- Organized educational workshop on microcontrollers and the Arduino platform.

2017 **Freelance** Aftermarket Marine Parts, Greece

- Redesigned an electronic fuel injection controller PCB based on an old circuit of 2005 called Megasquirt that consisted of obsolete parts. This would control a speedboat's electronic fuel injection engine as the customer wanted.

2016 **Freelance** Misc customer

- Designed a solution that notifies the user/client over GSM network about the status of an AC motor that was used as a pump for watering cotton fields.

2014 **Freelance** UV PCB developer box

- Designed my own fully automated UV PCB developer box for my future embedded projects with AVR Atmega microcontroller.

2012–2013 **Electronics Engineer** Sielman S.A.

- Electronic repair of MIM-23 Hawk missile system's electronics.
- Design and manufacture of a test bench for Hummer SUVs DC generators using LABVIEW.

Tools

- Eagle
- Altium Designer
- KiCad
- P-Spice
- Multisim
- Git
- Doxygen
- Matlab (Core)
- Labview

Protocols

- U(S)ART
- I2C
- SPI
- NMEA 0183

Language

- Greek
- English (First Certificate in English)
- German (Zertifikat Deutch)

Mini Projects

HSM - A hierarchical state machine in C without the use of dynamical allocation.
sString - A C string module that does not use dynamical allocation.
Real Engine - Developed a custom Game Engine in C++ with the following libraries: Irrlicht SDK, Havok Physics and Animation SDK, LUA scripting language and Irrklang SDK.

2011–2012 **Automation and Control Engineer** Automation System Hellas S.A.

- Development of fire detection and TMS control SCADA application at Egnatia Motorway tunnels in Ioannina, Greece.
- Development of production process automation SCADA application of the Culture line for the OLYMPUS DAIRY INDUSTRY S.A. in Larissa, Greece.
- Electronic repair of broken pneumatic valve PLC-driver boards.
- PLC and SCADA programming, testing and debugging.

2010 Summer **Internship** Kalogiannis Koutsikos distillery A.B.E.

- Electrical machinery maintenance.

2008 Summer **Internship** Soukos Robots S.A.

- Development of an innovative smart fully automated wastebin controlled by a SIEMENS Logo PLC.

Theoretical Knowledge

Classical and modern Control Theory of dynamical systems

- Classical and modern Control Theory of dynamical systems.
- Stability, Controllability and observability.
- Adaptive, Hierarchical, Intelligent, Optimal, Robust and Stochastic control.
- System identification.
- Neural network and fuzzy logic control.

Robotics

- (Inverse) Kinematics and dynamics theory of movement.

Mechatronics

- Electronics.
- Sensor data acquisition and actuator control.

Telematics

- SCADA systems.
- M2M interface.

Telecommunications

- Laplace, Z- transform.

Spare time activities

- Playing music (blues and greek rebetiko) with Tzouras, Cretan lure or the Guitar.
- Trying to live a zero waste life. This is a challenge when living in the city.
- Drawing comics into giving life to unique fantastical characters.
- Hiking, bushcrafting, camping and cooking under fire.
- Reading lots of books.
- Building stuff.

April 7, 2018