

Alexandros Sofios

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Technical Manager

Competent in developing Internet of Things (IoT) solutions from the ground up. Focused on software development for both client and server side applications. Skillful with hardware design and development. Efficient in debugging software and hardware related issues. Experienced in supervising and managing installation of solutions on site. Quick learner, promptly adapting to unexpected complications. Strong work ethic, critical thinking and attention to detail. Solid background of applied mathematics and physics.

Skills

Programming Languages: C (10 years), C++ (9 years), Python (7 years), .net{C#, VB} (7 years), Java (6 years), microC (5 years), Fortran (2 years), Matlab (1 year), Mathematica (1 year), JavaScript (3 years), Swift (2 years), Perl, PHP, Scala, Swift, Ruby, Assembly

Databases: Microsoft SQL (5 years), MySQL (6 years), Oracle (1 year)

Operating Systems: Microsoft Windows, Linux, Android, iOS, OS X, DOS. Fluent in CLI, scripting and experienced in administrative tasks.

Web related: Microsoft IIS, Apache server, Nginx server, HTML, XML, CSS.

Hands on experience with wireless sensors solutions from Libelium, Netvox, Atlas, Texas Instruments (CC2430, CC2530 platforms), as well as with single board computers like Raspberry Pi, Intel Edison, Beaglebone and microcontrollers like ESP32, Arduino, TI MSP430 and Particle IOT development board.

Experience

Technical Expert- GeoViSense project, University of Zurich (UZH), Switzerland 2019 - today

- Hardware and software support for Cave Automatic Virtual Environment (CAVE) lab utilizing specialized tools like MiddleVR and Vizard (Worldviz).
- Software development/support in Unity game engine (C#) for CAVE research applications.
- Custom tuned software development solutions for CAVE lab interfacing with electroencephalogram (EEG) hardware/software and other wearable sensors like electrodermal activity (EDA) and blood volume pulse (BVP).

Software Developer- MobiTec projects, UZH and University of Basel (UNIBAS), Switzerland 2018 - today

- MobiTec-GP: Mobile app development for Android 9+ (Java) and iOS (Swift) to calculate and analyze gait speed and life-space utilizing GNSS and Inertial measurement Unit (IMU: accelerometer, gyroscope, magnetometer) sensors.
- MobiTec-Stroke: Development of a "Map based tool". Online, fully customizable, map based questionnaire platform interfacing server side database for storing results. R templates for accessing database.

Technical Assistant - MOASIS project, UZH, Switzerland 2017 - today

- Hardware and software assessment of the uTrail devices (IMU, GNSS and Audio module checks) including firmware debugging.
- Software development for data integration and quality assurance (prototyping in Python, final versions with GUI in C#).
- Database development / server-client infrastructure for secure remote data analysis.
- Development of mobile Android app for cognitive experimental setup ("memory game", interface to Movisens services as well as a local backup database for result storing).

Technical Manager - SenseWorks Ltd, Wireless Sensor Solutions, Athens, Greece 2014 - 2017

- iSupport E.U. Project: wearable sensor to interface with robotic arm, fusion of IMU sensors' data for gesture detection, real time wireless communication via Bluetooth Low Energy 4.0 . Hardware design and development, Firmware programming, demonstration GUI development.
- "Innovative Training Approach For Supportive Living Operators" E.U. Project: provide guidelines and means (develop a toolkit) for training Operators in utilizing efficiently the latest advancements in IOT sensor solutions in Supportive Living domain. Hardware design and development, Firmware programming, demonstration GUI development.
- Firmware, hardware development for PCB with Photon microcontroller to easily interface with existing commercial sensors.

- Ict4growth E.U. Project: solution for monitoring gases, noise and water pollution at printing industries. Hardware and firmware development. Backend .NET C# development supervisor. Installation supervisor on site.
- iPower Project: power consumption monitoring solution (industrial, residential versions). Hardware and firmware debugging, backend development (C#), team supervisor for frontend development, installation supervisor on site.
- Software development for Android Wearable for BLE or Wi-Fi Mobile Beacon for indoors location. MS SQL and MySQL backend solution for both Windows and Linux systems.
- Firmware development for BLE dongles as Passive Reference Beacons for indoors location.
- Backend development for indoors location solution (MS IIS, C#, MS SQL).
- Website frontend development, for home sensors solutions (with indoors location) using SignalR for real time updates.

Software Developer - CDD Ltd, Embedded Systems, Athens, Greece (6 months) 2016

- Azure Server Interface and communication protocol design for integration with large home sensor network solutions.

Firmware Debugging Assistant - CDD Ltd, Embedded Systems, Athens, Greece (3 months) 2015

- GPS tracker wearable: debugging windows app for sensor communication, sensor firmware debugging.

Senior Developer (SW and HW) - SenseWorks Ltd, Wireless Sensor Solutions, Athens, Greece 2013 - 2014

- Bluetooth Low Energy (BLE) Beacons for indoors location: using fingerprinting training.
- Hardware and Software for BLE Reference Beacons for indoors location.
- Hardware and Software for BLE Mobile wearable Beacons for indoors location.
- Firmware development for various wireless sensors using existing solutions such Raspberry Pi, Intel Edison, Libelium development boards, Atlas development boards.

Developer (SW and HW) - Omega Technology, Wireless Sensor Group, Athens, Greece 2013 - 2014

- Bluetooth Low Energy Beacons for indoors location: using RSSI trilateration.
- Client, Server Software for indoors location with Zigbee.
- Client, Server Software for home automation sensors Zigbee network.
- Definition of guidelines for installing an indoors location system: developing 3D automated tools proposing best setup.
- Ergastiri Assisted Living: Installation and customization of indoors location solution and sensors network solution

Junior Developer (SW and HW) - Omega Technology, Wireless Sensor Group, Athens, Greece 2012 - 2013

- Texas Instruments CC2430 and MSP 430 firmware programming for indoors location with Zigbee wireless networks
- Embedded wireless network topologies study for Zigbee : star, mesh, cluster tree

Systems Administrator - Polymechnon, Robotics and Virtual Reality Educational Park, Greece 2010 - 2012

- MS Windows admin: customization using scripting, support, maintenance
- Programming Robots' microcontrollers Assistant (firmware debugging and optimization)
- Network configuration and maintenance

Compulsory Military Service 2009 - 2010

- Assigned to office duty as a Systems Administrator Assistant
- Programming Excel Macros in VBA

Technical Backup Assistant - self-employed, Greece 2007 - 2009

- Systems Administrator Assistant (MS Windows), Backup Systems support (Linux Server scripts)

Education

Languages: Greek (native), English (fluent, Cambridge Proficiency Grade A)

BSc in Applied Mathematics and Physics NTUAthens (Thesis Examination Pending)

Favorite courses:

- Microelectronics and Signal Analysis
- Lasers and Optoelectronics
- Design and Development of Applications
- Internet Technologies
- Computational Physics: Simulation of physical states of materials (including Monte Carlo method)
- Dielectric, Optical and Magnetic Properties of materials