



Summary

Designing Firmware architecture and embedded algorithms for ultra-low power systems with sensors. Process oriented, comfortable with project planning, execution and tight timelines.

Experience

2018 – now

Simplehuman – Embedded Software Engineer

Development of the new **Sensor mirror hi-fi**, smart mirror with Google Assistant

simplehuman

2016 - 2018

Game Your Game, Inc. – Team Lead - Embedded Software Engineer

Connected device for golf players: new generation product development (GAMEGOLF PRO). Project management and technical development of a low power embedded system to put on a golf club.

2 yrs 9 mos - Full Time



Project management

- Team Lead since the Alpha phase our latest product (May 2018). Team of 10.
- Coordinating a distributed team in California, Ireland, and Ukraine, prioritizing tasks according to our launch roadmap, working with each member on task decomposition, regular feedback, and documentation.
- Higher level coordination with Management for product launch, popularization of technical concepts for Executives and Investors, improvement of the bond between Business, Product, and Engineering.

Technical development

- Firmware architecture design and development for low power CPU (Cortex-M4, Cortex-M0)
- Real-time algorithms on board (swing detection, activity & power related algorithms)
 - On-the-fly sensor calibration on board (Magnetometer, Accelerometer, and Gyroscope)
 - Embedded Sensor Fusion for real-time orientation estimation (6 and 9 axis)
 - General motion analysis for sport application, and design of Golf specific models (MatLab)
 - **Provis. US Patent on motion detection models and motion analysis**
 - **Provis. US Patent on low power management algorithm (always-on embedded system powered by a coin cell battery)**
- Machine Learning on the back-end (Genetic Algorithm in C/Python)
 - Framework for data collection and algorithm testing
 - Genetic Algorithm for swing detection, classifiers compatible with our embedded system
 - Feature propagation to the embedded system through a config file transferred over BLE

2014 - 2016

SportSense – Entrepreneurship - Sensor network for sport industry

Full conception of hardware, firmware and software: Sensor network for Gymnastics National Training Center Sensors, PCB design, Micro-control, Data analysis, Bluetooth, Embedded Linux process, User interface
Entrepreneurship Award – by the Foundation of the University of Nice (10/2015)

1 yr 8 mos - Part-Time



2014 - 2015

CNRS – GeoAzur – Firmware developer - Professional Seismometer design

End-to-end project management: Python digital signal processing and data analysis, user interface to display real-time graphs, backend management for long term data storage (SEED compliant)

7 months - Part-Time



Education

2011 - 2016

Master of Sciences in Electrical Engineering - Embedded Systems Major

University of Nice Sophia Antipolis, France

2014 - 2015

Certificate of Small Business Management & Entrepreneurship

University of Nice Sophia Antipolis, France

Skills

Engineering

Language: C, Python, Php, SQL, MatLab, C++, Java, Javascript

Software: Eclipse IDE (and declensions), Keil µVision5, Matlab, Jupyter IPython, Intel CoFluent Studio, Git, Jira, Asana

Hardware: CortexM4, CortexM0, NXP and STM sensors, NXP BLE stack

Language

English – French

Miscellaneous

2019

Provis. US Patent – (AN 62/778,654) Electronic tag for shot detection, Jan 2019

2017

Provis. US Patent – (AN 62/557,225) Motion and gesture analysis from a Magnetic and Inertial Measurement Unit, Nov 2016

2015

Entrepreneurship Award – Foundation of the University of Nice Sophia Antipolis, Student Startup Contest, Oct 2015

2015

Junior Project Award – STMicroelectronics, e-Same Contest, Nov 2015

2009 - 2015

Elite Athlete: Trampoline French Olympic Team

Portfolio:

www.mireweb.com