

Mathieu Petitjean

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I am an electrical engineer with experience in agile prototyping and development of connected devices. I thrive in challenging and innovative projects with a main focus on sustainability.

Experience

Electronics innovation engineer (Research & Development)

Brussels, Belgium

HAEMERS TECHNOLOGIES

June 2019 - Current

- In charge of hardware and firmware development for all in-house electronics
- Design of custom electronics for process monitoring & efficiency improvement
- Development of data processing and analysis software (Python, MySQL)
- Development, installation and testing of process control loops (valves, pumps, burners automation)
- On-site installation and debugging of hardware in Belgium, France, Vietnam
- On-site project management and lead engineering in Vietnam

Hardware and embedded firmware engineer

Brussels, Belgium

PRODUCTIZE, THE IOT AGENCY

Sep. 2018 - May 2019

- Agile prototyping & development
- Integration of wireless technologies (BLE, SigFox, NB-IoT, WiFi, RFID, GPS, ...) on hardware and firmware level
- Hardware design of electronics prototypes and products (KiCad)
- Hardware testing, validation and repair (manual SMT assembly and stenciling, reflow work)
- Firmware development (GCC, mbed, Nordic SDK, ESP-IDF, ...)
- Development of automation scripting tools (Python, Google App Scripts)
- Field testing of prototypes in Russia
- Project and product management
- Direct contact with customers and suppliers

Electronics Engineer Intern & Student Job

Brussels, Belgium

PRODUCTIZE, THE IOT AGENCY

Jul. 2017 - May 2018

Internship as a junior Electronics Engineer, followed by a day of work once a week during the last year of my Master's.

Electronics Researcher Intern

Brussels, Belgium

UNIVERSITÉ LIBRE DE BRUXELLES (ULB)

Jul. 2016 - Aug. 2016

1-month internship as a researcher in the Embedded Electronics department university lab (BEAMS ULB) to get acquainted with academic research.

Implementation of a prototype of visible light communication chain as possible alternative for on-board satellite communication, in collaboration with Thalès Alenia Space.

Extracurricular activities

- **2018:** 1st runner-up of the Data Challenge, a Machine Learning contest held by the Solvay Digital Society
- **2015-2018:** private teacher of Science and Mathematics for high school students
- **2015-2018:** student representative of EIT students, member of the Faculty Council and Pedagogic Commission

Education

Master's degree of Electrical Engineering, Summa Cum Laude

Brussels, Belgium

UNIVERSITÉ LIBRE DE BRUXELLES (ULB) AND VRIJE UNIVERSITEIT BRUSSEL (VUB)

2012 - 2018

- **Specialization:** Information and Communication Technology Systems
- **Master Thesis:** *Wireless UAV networks - providing wireless coverage to ground units.* Development of an autonomous drone equipped with 3G antennas in order to act as a mobile base station reacting dynamically to the ground user's behavior.

Publication

Publication of the results achieved during my Master's Thesis to the 2018 IEEE 29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) in Bologna.

M. Petitjean, S. Mezhoud and F. Quitin, **Fast localization of ground-based mobile terminals with a transceiver-equipped UAV**, <https://doi.org/10.1109/PIMRC.2018.8580864>

Skills

SOFTWARE

- Advanced: C/C++, Python, Matlab/Octave, Linux, Git, KiCad, mbed, LaTeX
- Elementary: MySQL, JavaScript, VBA, PSpice, VHDL, ARM Assembly, TensorFlow, UHD

LANGUAGES

- **French:** mother tongue
- **English:** professional working proficiency
- **Dutch:** basic

INTERPERSONAL SKILLS

- Dedicated team player
- Experience of working in multicultural environments
- Persistent and patient against complex problems
- Ability to prioritise tasks for results-oriented work

Personal interests

- **Sports:** Runner (from 4x100m to half-marathon) and involved cyclist
- **Books:** passionate reader
- **Cooking:** artisan bakery
- **Youth Movement:** active in Brussels 102nd unit since 2000