

Robin Beilvert

Software & Robotics Engineer

4 rue du Charolais
75012 Paris France
☎ +33 7 82 88 46 11
✉ robin.beilvert@gmail.com
📁 RobinN7.github.io

Work Experience

- Jan. 2020 **Deep Learning - Software Engineer**, *SoftBank Robotics Europe*, Paris, France.
- Now · Development & integration of a Deep Neural Network (SSD) for robot vision and perception of human behavior : people & face detection, face pose regression with strong real time constraints on limited hardware.
· Implementation of rule based decision algorithms to help Pepper robot act and look natural in social contexts (spatial attention, robot gaze...).
- May 2018 **Software & Hardware Consultant**, *Kickmaker*, Paris, France.
- Jan. 2020 · *June 2018 - Jan. 2020 SoftBank Robotics Europe*
Software development for Pepper robot. Development of Qt/QML GUI for developers to understand the robot's perception of its surroundings, configure its behavior and simulate its social environment for instrumentation tests. Tools development for Pepper audio/video recording, compression and reinjection.
· *May 2018 - June. 2018 French Bureau*
Hardware & software development for a remote controlled locking system. PCB low-power conception and design with Nordic Bluetooth Low Energy SoC, sensors and actuators. Firmware development on top of Nordic nRF5 SDK.
- Sept. 2016 **Electronics & Software Engineer**, *ClapSens*, Paris, France.
- May 2018 Development of an innovative device control interface based on finger snaps and hand claps. PCB conception and design towards further industrialization, import-export considerations. Machine learning experimentation for clap detection algorithms. Implementation of cutting-edge Bluetooth 5 software on new CC2640R2F wireless MCU.
- March 2016 **Electronics & Software Intern**, *ClapSens*, Paris, France.
- Sept. 2016 Hardware/software setup of a signal acquisition interface for research on clap/snap sound characterization. PCB conception and design : low noise audio amplification, 2.4GHz and 433MHz RF communication implementation on a single 33x100mm board. Bluetooth Low Energy and serial communication implementation on top of TI-RTOS framework on CC2650 ultra-low power wireless MCU. Casing CAD in accordance with acoustic constraints. Research and purchase of an affordable high-resolution 3D printer for low series production.
- June 2015 **R&D Intern**, *LAAS-CNRS*, Toulouse, France.
- Aug. 2015 Design and implementation of a Matlab/Simulink framework to increase frequency performances of Unmanned Aerial Vehicle control. Adaptation of C-written CANopen framework using USB-to-CAN drivers to communicate with Maxon motor control modules. Matlab S-Functions implementation for controlling the quadrotor arms tilting angle and communicating with the flight board.
- Aug. 2014 **Technician Intern**, *Cofely Services - GDF Suez*, Nantes, France.
Climatic installation and maintenance at Ifremer, Oniris and Banque Populaire.
- July 2014 **Electronics Consultant**, *Eva Albarran*, Toulouse, France.
Study and reproduction of thermoelectric sap flow measurement Granier probes, design of an Arduino datalogging module integrating low-noise amplification for field test. Collaborating with a CNRS Research Director, for the 2015 Venice Biennale.

Education

- Sept. 2015 **Exchange program**, *HUST*, Wuhan, China, Computer Science.
- Feb. 2016 Object-Oriented Programming, Artificial Intelligence, Multimedia, Digital Communication, Chinese.
- 2013 - 2016 **Engineering school**, *INP ENSEEIHT*, Toulouse, France, Electronics and Signal Processing.
Mathematics and signal processing, analog and digital electronics, electromagnetism, programming (C/C++).
- 2011- 2013 **Two-year intensive highly-selective course to prepare for competitive entrance examinations to National Engineering Schools**, *Lycée Clemenceau*, Nantes, France.
Mathematics, Physics, Engineering Sciences

Technical skills

Programming languages	Python, C/C++, Kotlin, QML, \LaTeX , HTML/CSS...	Electronics	Digital/Analog electronics, PIC, ARM, Arduino, Raspberry Pi
Software	git, TensorFlow, PyTorch	OS	GNU/Linux, Microsoft Windows

Personal Projects

Projects of personal initiative or achieved within 7Robot, ENSEEIHT's Robotics Club.

Pictures available at [robin7.github.io](https://github.com/robin7).

- April 2019 **KickArcade**, Paris, France.
Design and assembly of two identical arcade machines integrated into the body of an old upright piano for Kickmaker's office. Runs Recalbox retrogaming OS on two Raspberry Pi.
- Aug. 2015 **RGB light control system**, Toulouse, France.
Design of a custom interactive lights system controlled by sounds and music using smartphone embedded Fourier Transform. Serial communication with PIC microcontroller over Bluetooth.
- June 2015 **Arcade7**, 7Robot, Toulouse, France.
Double arcade machine in a piano (see KickArcade) for ENSEEIHT students' leisure room. Runs Raspicade.
- May 2015 **Robotics Competitions**, 7Robot, Toulouse, France.
· *French Robotics Cup (Eurobot)* : **Quarter-finalists**, **7^e/180 teams**, **first team of engineering students**.
Conception of autonomous robots. PCB design : SMPS, H-bridge motor control, analog/digital actuators and sensors management. DC motor control loops on PIC microcontroller. Python AI on Raspberry Pi (Archlinux).
· *Freescale Cup*
Conception of a line following model race car ; sensors, signal processing, control loops.
- May 2014 **Robotics Competitions**, 7Robot, Toulouse, France.
· *French Robotics Cup (Eurobot)* : **77^e/160**.
· *Freescale Cup* : **2nd national position**. *Qualification for EMEA Finals*.
- March 2014 **LED Cube**, 7Robot, Toulouse, France.
Design and assembly of a 3D interactive LED cube made of 512 bi-color LEDs on 8 multiplexed floors driven by 9 synchronized microcontrollers. Display instructions are sent via UART from homemade Python games.

Languages

- English **Fluent**. TOEIC score : 905. European level B2. Daily use in presentations, meetings, report writing.
- Spanish B1 Good working knowledge
- Portuguese A2 Intermediate level
- Chinese A1 Basic. 160 hours of Chinese lessons included in HUST semester, weeks of backpacking in May 2014 & May 2019.
- French Native speaker

Interests/Hobbies

- Associative **President 2014-2015 of 7Robot, ENSEEIHT's Robotics Club**
Vice-president 2013-2014 of the club CarnavalINP : Building a float for the carnival of Toulouse
Team, projects, sponsors and contact management, handcraft, technical training for beginners.
- Hobbies Painting, guitar, piano, dance in pairs (Rock, Swing), rock-climbing / bouldering, alpine skiing.
- Backpacking **China** : Beijing, Xi'an, Xiangyang, Shanghai, Wuhan, Changsha, Zhangjiajie, Yichang, Fenghuang, Yangshuo, Chengdu, Shiyang, Hangzhou, Suzhou, Nanjing, Kunming, Shilin, Jianshui, Yuanyang, Dali.
Brazil : Belo Horizonte, Ouro Preto, Brasília, Rio de Janeiro, Foz do Iguaçu.