

Thomas Demmer

Born on the 16th of December 1990, Albi, France
French and Dutch nationality

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Resume

Engineer and entrepreneur, currently working as a freelancer on projects combining electrical engineering, embedded software development, prototyping and innovative project management.

Professional Experience and Achievements

- June 19 - Today **Freelance engineer, Paris**
Embedded software and electronics engineering, project management, prototyping.
Ex: autonomous guidance algorithm for drone-boat; weather interactive art project for the city of Minneapolis; Internet-connected smart lock...
- Feb 15 – Dec 18 **Co-founder and COO, Internest, Paris.**
Internest develops autonomous landing systems for high added-value drones and helicopters thanks to its safe, reliable and centimeter-accurate LoLaS positioning and guiding system.
- Worked on all aspects of the startup's development: from 2 to 10 employees, public and private funding, development and selling of an electrical intelligent product.
- Embedded Software development : C++ library development, software project organisation (Git, versioning, basic unit testing...), customer updates and version control, custom HMI in Java
 - Microcontroller environments (Atmel SAM3X and ATmega328) : custom encrypted bootloader development, custom non-blocking firmware, use of timers and interruptions, multi-sensors operations, use and implementation of various protocols (I2C, UART, SPI, MAVLink, CAN...)
 - Control loops and algorithms : in-flight real-time 3D velocity control loops, fully autonomous landing algorithms capable of making a drone land on a moving ship.
 - Hardware development from scratch to market: schematics, test beds, components sourcing, suppliers management, quality control and assembly
 - Project and customer management with big accounts (Airbus, Naval Group, French military...), contract definition and pricing, technical consulting, demos and service operations
 - Business management : recruitment, budget and time management, business strategy, team management...
- Sept 14 **1st Nexus Maximus award, Philadelphia University, USA.**
Entrepreneurship competition in teams working on health-related projects.
- Jul. 14 – Dec 14 **Software Engineer (6 months), RevMob Mobile Ad Network, São Paulo, Brazil.**
Software development internship in a small Start-up in mobile advertisement. Front and Back-end projects (Javascript and Node.js backend). Migrated the front from JQuery to Angular.js.
Responsible for the development of a complete new automatic fraud-detection system.
- June 12- June 13 **R&D engineering trainee (12 months), Centre technique PSA Peugeot Citroën (Vélizy), Paris, France.**
Assistant project leader on motor acoustics and vibration projects (patent filled), sizing and modelling of electric and conventional power trains, project management...
- Apr 11 – Jul 11 **Research Internship, Università di Roma II 'Tor Vergata', Rome, Italie.**
Scientific studies on modelling the mechanical response of a collagen fibre. Solving non-linear mechanic equations, theoretical modelling, experimental validation.

Education

- Aout 13 - Déc 14 **Double degree at the Escola Politécnica da USP, Engenharia Mecânica.** *Majors: Fluid engines, Heat engines, Intern Combustion engines, Analytical Mechanics, Mechanical behavior of materials, Aerodynamics.*
Degree awarded in 2014. [Escola Politécnica da USP](#), São Paulo, Brasil.
- Sep 10 - Déc 14 **Master's student in Mechanical and Material**, in one of France's top Engineering schools in the Grande Ecole system. *Majors: Physics of Materials, Fluid Mechanics, Structural Mechanics, static and dynamic Mechanics.*
Degree awarded in 2014. [Ecole des Ponts ParisTech \(ENPC\)](#), Paris, France

Sep 08 - Juin 10

Preparatory class for French elite engineering schools, Majors: Math, Physics and Engineering Sciences.
Lycée Pierre de Fermat, Toulouse, France

Skills

Computer

Programming: C++ (libraries development, object-oriented programming, unit testing), python, machine learning (Tensorflow, DQN, reinforcement learning), JavaScript, Git
Software: Microsoft Office, Matlab, Visual Studio, Eagle, Kicad

Hardware

Expert in Arduino, microcontrollers, Raspberry-Pi, electronic board design from prototype to small series production

Languages

Fluent in French and Dutch, English and Portuguese, conversational German

Other interests

- Handball, hiking, running.
- Craft works, robotics, machine learning...