Lucien RENAUD
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29 years old, Driving license

Mechanical Engineer

lurenaud.com

Education

Master of Science in Biomedical Engineering (MSc) - 2016

University of Dundee (UK) (imaging, prosthetics, surgical robotics)

Master Degree in Industrial Engineering - 2016

INSA (National Institute of Applied Science) – Blois (FR) Specialization: Automatic Systems and Industrial Computer Science

DUT (equivalent HND) **in Electronics and Industrial computing** – 2013

University of Paul Sabatier Toulouse (FR)

Skills

Design
- Mechanical CAD Solidworks
  - FEA Static Simulation
  - Surfaces
  - Gears
  - Sheet metal
  - PDM Workflow
  - Electronic Integration (Altium MCAD)
- Electronic CAD Kicad
  - Brushless motor driver
  - DC/DC Power Step Down/UP converters
  - Differential routing (PCIe/USB3/Ethernet)

Manufacturing
- 4 axis CNC Mill / Lathe
  - Gcode Manual / CAM
- 3D printing SLA/SLS/FDM/MJF
- Plastic Injection Molding
- Sheet metal
- PCB manufacturing
  - BOM management

Programming
- C, C++, Python
- Microcontroller: C, RTOS (STM32, Atmega, PIC...)
- FPGA: Verilog (ICE40)

Maintenance
- Update maintenance plan in pharmaceutical context (cGMP, GSK procedure)
- HVAC, steam network, distilled water network…

Languages:
- French (Native)
- English C2 (Fluent)
- Spanish B2

Methodologies
- FMECA
- cGMP

Computing
SAP, MS Office suite, Ubuntu, SolidWorks, Proteus, VSCode, Matlab, Arduino, Kicad, Raspberry Pi, Docker

Professional Experiences

Mechanical Engineer

Since January 2023, Barcelone (ES)

Mechanical design of part and subassemblies for humanoids and mobile manipulation robots
Key Achievements:
- Design of a mobile manipulator's Head (Tiago 2)
- Design of a differential for a 2-axis humanoid torso actuation (FEA)
- Design of a humanoid's torso (Electronic integration and structure designed to withstand impacts)
- Integration of new electronics components (Force Torque sensor, Tool changer, Cameras, CPU)
- Technical drawings production

Research Engineer

2017,5 years, Nancy (FR)

Design and manufacturing of minimally invasive robots for archaeology exploration of the Khufu pyramid. Also design experimental platforms for robotics research purpose.
Key Achievements:
- Several working robots designed, made and tested in real conditions from scratch
- Improve manufacturing equipment of the lab
- Fully actuated brushless drone

Reliability Engineer

2017,1 year, Brussels (BE)

Creation and update of maintenance plans for EHS critical equipment from risk assessments (FMECA) (as a consultant from the company Assystem)
Key Achievements:
- Malaria and Hepatitis B vaccine production units' reliability updated
- P&ID drawings updated

System Engineer (Internship)

2016, 6 months, Dundee (UK)

Design and manufacturing of an emergency vitamin K filing system, for premature new born
Key Achievements:
- Feasibility prototype manufactured

Software Engineer (Internship)

2015, 4 months, Manching (DE)

Developing features for a parametric CAD software in C++ using Opencascade
Results:
- Support new aircraft fuselage structure elements in the software (door, beam, frames…)