

# Koji Andriamahery

RESEARCH ENGINEER, HEALTH TECHNOLOGIES

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## Overview

With an emphasis on healthcare, I am at ease within cross-disciplinary teams. My background mainly lies in **hardware systems engineering** put to human-centered topics such as **bio-sensing, clinical decision support systems, computational physiology, assistive technologies and IoMT**.

## Work Experiences

Stella Surgical Montpellier, France  
**Research Engineer, Hardware & Data Acquisition** 06/2023 - current

- Worked on digital twin modeling of living organs for clinical decision making and logistic optimisation during organ transplant processes.
- Conceived new types of bio-sensing devices and physiological data analysis techniques for liver grafts.

**Hardware Systems Engineer** 01/2022 - 06/2023

- Established systems engineering methods (MBSE), developed medical embedded systems and simulation and test benches in the field of organ transplantation.
- Led product engineering, including process modeling, sensors integration and medical compliance.

LIRMM - Smart Integrated Electronic Systems Group Montpellier, France  
**Hardware/Firmware Engineer** 09/2021 - 01/2022

- Initiated and led a personal research experimentation : Embedded hand gesture recognition and bio-sensing for sign language interpretation.
- Worked on hardware architecture, MCAD/ECAD & firmware programming (C/C++, Matlab).

HumanLab Saint-Pierre Palavas-Les-Flots, France  
**Assistive Technology Designer** 01/2021 - 07/2021

- Developed an assistive robotic orthosis for children in collaboration with health professionals (physicians, ortho-prothesists, occupational therapists) from Institut Saint-Pierre (paediatric hospital).
- Designed various hardware assistive technologies using rapid-prototyping techniques with end-users.

TU Delft - Interactive Intelligence Group Delft, The Netherlands  
**Research Assistant, Responsible AI** 05/2020 - 08/2020

- Computational modelling of an ethical decision-making mechanism to incorporate moral uncertainty on autonomous vehicles.
- Application of data-science techniques (Python, SQL) on MIT's "Moral Machine" dilemma dataset.

## Education

**University of Montpellier**, Faculty of Medicine and Sciences. 2022

M.Sc. in Digital Health

Major : Health Devices Engineering. Graduated with high honors (Ranked 1st).

**IMT Mines Alès**, School of Engineering. 2022

Diplôme d'ingénieur (M.Eng.) in Systems Engineering

Major : Mechatronics. First TEDx Licensee of both the Engineering School and the city.

## Peer-reviewed publications

Sietze K., Koji A., Catholijn J. and Luciano S. 2023. Normative uncertainty and societal preferences: the problem with evaluative standards. *Frontiers Neuroergonomics, Sec. Social Neuroergonomics*. Volume 4 - 2023 | <https://doi.org/10.3389/fnrgo.2023.1147211>

## Other collaborations

**Sorbonne University**, Saint-Antoine Research Centre. 2022  
Pilot study of a new organization model for organ transplantation activities.

**Mines Paris - PSL**, Centre for Management Science. 2022  
Medico-economic evaluation of introduction of novel ICT and perfusion systems in transplant processes.

**Fachhochschule Dortmund**, Faculty of Mechanical Engineering. 2017  
Visiting student - practical courses on mobile robotics.

## Volunteering

**HumanLab Saint-Pierre**, as Maker. 2023  
Designer for assistive-technology project owners. Prototyped an assistive wheelchair during Fabrikarium first edition event.

**TEDxIMTMinesAles**, as Founder, Lead Organizer and TEDx Licensee. 2020  
Organized the first edition of TEDx conferences of the city as TEDx Licensee. Created and managed an executive team, planned main objectives and lead partnerships as main interlocutor of all external stakeholders and speakers.

**Conservatory of Music and Dance**, as Exhibitor Maker. 2017  
Held an exhibition for the ArtFab event, for the design of a retroactive light and sound system.

## Miscellaneous

### Languages

French : native.

English : fluent (C2 level - CEFR guideline).

Spanish : notions.

### Music

Graduated in jazz music from Conservatory of Music and Dance (Amiens, France).

Main instrument : saxophone.

Other instruments : bass, guitar, drums, EWI, and some weird sounding home-made prototyped things.