

# Coline Ritz | Design Engineer

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## EDUCATION

**Imperial College London | MEng in Design Engineering *First-Class Honours* | 2018-2022** [Learn more](#)

- **Key Modules:** Computing ( Robotics, Machine Learning, Optimisation, IoT), Engineering (Electronics, Mechanics, Materials ) and Design (Human-centred design, Product design, System design)
- **Master's Research Project :** Designed and developed a real-time Internet Carbon Footprint analyser (using a network traffic analyser, Machine Learning classifiers, Raspberry Pi, GCP) to increase user awareness of their digital carbon consumption.
- **Research Project :** Designed and 3D modeled a bio-inspired robot for avalanche victim search, with mechanical design optimization ( strength, longevity) using SolidWorks FEA (Finite Element Analysis).
- **IoT project :** Explored correlations between household's energy consumption (using ESP32, NoSQL Mongodb, AWS) and energy's news datasets (Twitter API) to build prediction algorithms to reduce domestic energy consumption.

## WORK EXPERIENCES

**Databird | Data science teacher | August 2024 – Present**

- Teaching Data Science tools to groups of professionals willing to make a shift in their careers (Python, ML, SQL, Power BI)

**Ecocircular | Climate NGO [Learn more](#) | August 2023 – Present**

- Creation of a collective aimed at inspiring climate action during a 9-month journey across America
- Sailed back across the Atlantic (boat maintenance, ropework, mechanical maintenance, electronic components replacement)
- Facilitation of 45 workshops and interviews with environmental and climate activists (students, IPCC researchers, NGO etc.) to share their ideas, solutions and hope on social media platforms and at events (e.g. Climate Academy, Écocitoyenne House).

**IJO | Green IT Engineer | September 2022 – August 2023**

- Design of new algorithms based on certified methodologies (Carbon Footprint, GHG Protocol, CDP Project, SBTi) to reduce greenhouse gas emissions from data centers, software, cloud, and networks - with automated data collection (data scraping, API)
- Organised and lead workshops and trainings on sustainable IT and AI

**DSS+ | Sustainable Data Consultant | Mar 2021 - Sep 2021**

- Helped in the design of the 3D modelling of pyrolysis machine system
- Participated in the redesign of an e-waste management software used by 40 e-waste organisations across the globe
- Engineered and designed the first integrated Biochar (Greenhouse Gas removal technology) network in the UK connecting sawmills, farmers and investors with a centralised marketplace (winner of Government GGR BEIS competition)

**Imperial College Junior Solution | App Developer | Oct 2019 - May 2020**

- Designed and build an app (front-end) in collaboration with CentraleSupélec Paris for the Balkan Trafik festival ([on the App Store](#))

**Zeta learning | Edtech | Research intern | Aug 2019 - Sep 2019 | London**

- Research on scientific communication around ML clustering algorithms

## TEAMWORK AND LEADERSHIP

**Les Glenans Sailing school | Workshop Technician | Sep 2024**

- In charge of maintaining a fleet of 50 yachts (Laser Vago, Obi One) using resin and laminating techniques.

**Climate Fresk and 2TONNES | Animator | May 2023 - Present**

- Organise and animate workshops (40 so far) that vulgarizes the IPCC reports to facilitate the understanding of climate change

**Utopia 56 | Volunteering | July 2024 - Present**

- Citizen mobilization alongside exiled people ( volunteers roam , French classes, etc.)

**Code Carbon | Data for good volunteering | 2022**

- Data Analyst for the Python package measuring the carbon footprint of code

**Hackathon | Imperial college | 2018-2022**

Participated in Imperial IC Hack events (project includes web App scanning barcodes to return environmental impact data)

**TEDx Imperial | President | 2021**

- Managed day-to-day operations and led a team of 56 to organize TEDx Imperial's first virtual event, attracting 1,000 attendees.

**Imperial Enterprise Lab | Venture Catalyst Challenge | Fev 2022- Avril 2022**

- Selected out of 185 applications to take part in a 7 intensive weeks of entrepreneurship masterclasses, 1-1 coaching, and meetings with experts

## KEY SKILLS AND INTERESTS

**Programming Languages/ Frameworks / Libraries:**

Object-oriented Python (scikit-learn, TensorFlow), C++ (IDE arduino), MATLAB, Github

**Software:** MS Office, Solid-Works, FUSION 360, Adobe (Id, Ai, Ps, Xd), CES Edupack, SimaPro, WF-Reptool

**Hardware:** Raspberry Pi, Arduino, ESP32, prototyping, 3D printing, laser cutting, soldering, wood works

**Languages:** French (native), English (bilingual), Spanish (Advanced)

**Interests:** Playing for Paris Region Nicolaïte de Chaillot Football Club, First Team Imperial College Women's Football Club, Violin, fixing stuff!