

# Leon Santen

**Building life-affirmative systems as an ecology-aware engineer, boundary spanner, and relational designer**

they/any

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## WORK EXPERIENCE

**Redwood Energy • California • 09/2024 - Present**

**Graphic designer and researcher • Part-time**

- Communicating and researching electrification concepts and recent innovations with the help of visuals

**Just Energy Hub • 09/2022 - 11/2023**

A group committed to empowering communities by bringing their visions of energy sovereignty to life.

**Advisory board member, Engineer, and Designer**

- Co-developed energy sovereignty portfolio surrounding a 40 kW vertical axis wind turbine
- Visualized core concepts, including right-to-repair, collaborative user manuals, and participatory design practices

**Natel Energy • Alameda, CA • 07/2021 - 06/2022**

A hydro-power startups that builds and designs fish-safe turbines to restore eco-system health.

**Env. Scientist & Mechatronical Engineer**

- Developed mechanical design and controls for a vacuum cavitation test ring
- Conducted, designed, and managed environmental science studies to assess the impact of hydro turbines on fish and ecosystems, adhering to environmental protection guidelines and pushing current best practices

**Woodland Harvest Mountain Farm • North Carolina**

**Off-the-grid renewable energy solutions project lead & engineer**

- Built several dwellings with natural materials
- Engineered and built a sun-tracking pan-tilt mechanism for five solar panels
- Developed wireless controllers to prevent battery damage
- Conducted siting study and developed preliminary design for a 4 kW wind turbine

## SKILLS

- Systems Integration
- Computer-Aided Design (CAD)
- Mechatronical & Software Engineering
- Participatory Design & Research
- Ecology and Complex Systems Thinking

## EDUCATION

**Master of Science in Engineering, Sustainability, and Health**

**University of San Diego**

05/2024

- A social & environmental justice focused program, training engineers to make informed choices across energy, water, food, waste, planetary health, and social systems.
- Applied all coursework to real-life projects, including off-the-grid energy sovereignty portfolio, ethical supply chain design, and trans-disciplinary communication.

**Bachelor's degree in Engineering: Robotics**

**Franklin W. Olin College of Engineering**

05/2021

- A small, innovative college of 350 students, emphasizing group work skills and human-centered design approaches to technical real-world problem-solving.

## Sustainable Design Lab

### Sustainable Behavior Prompt Researcher

- We ran a 6-month-long study to reduce the usage of laundry machines with the help of counting devices and social engagement, resulting in 20% water and energy savings

## Schütz GmbH & Co. KG • Selters, Germany • 01/2017 - 05/2017

### Fabrication Engineering Intern

- Participated in all manufacturing processes for IBC-totes

## VOLUNTEERING & LEADERSHIP

## Engineering, Social Justice, and Peace • 05/2023 - Present

### Secretary & Organizing Committee

With this work, I aspire to shift the narrative around being an innovative engineer by focusing on our relationships with the land and people, connecting (climate) justice organizers, practicing engineers, and academics. Let's co-create a circular, regenerative engineering economy!

- [esjp.org](https://esjp.org)



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