LEO BURNESS

Curriculum vitae

Product designer

Portfolio **leoburness.vercel.app**

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STATEMENT

I design instruments and feedback loops for living systems: medical devices, home devices, and the natural world beyond them.

SELECTED WORK

Sleep free OSA — at-home sleep apnoea diagnostic wearable

Final-year design project, Loughborough · 2025–26

A soft chin-anchored wearable that moves an overnight apnoea test out of the clinic and into the bed where the problem actually happens. Sole designer, from clinical brief to costed manufacturing proposal.

- **Process.** Designed the object and the system around it — a sewn & 3D Printed screening device, a bedside dock with a touchscreen digital display drawn for a dark room, and the sensing electronics inside them, built and bench-tested by hand.
- **Evidence.** A five-configuration electrode study against a formal null hypothesis set the specification: a conductive textile beat the clinical standard. When the data showed the first detection method could not see an apnoea, the method changed.
- **Manufacture.** Mono-material housing for end-of-life recovery, injection-moulding DFM and a costed bill of materials: a £99–149 retail case against an incumbent at £495 plus a subscription.

Morpheus — EEG desk robot driven by expression

Self-directed · May 2026

Concentrate between your eyebrows and it accelerates. Tilt your head and it turns. Blink and it blinks back. No phone, no remote.

- Decoded an undocumented wireless protocol to read brain and head motion live; wrote the firmware, drew the face and built it alone.
- Wrote and set its manual to the same standard as the object: a prototype nobody can run without you present is half a prototype.

WORK EXPERIENCE

Volunteer Teaching Assistant — Knockholt Primary

Sep 2026 – present

Helping children learn maths, literacy and science: breaking ideas down into their simplest form and adapting the explanation to each child.

Sous Chef — The George and Dragon

Jun 2024 – Sep 2025

Over a year of full shifts in a fast, physically demanding kitchen: consistent quality and reliable timekeeping under pressure.

Retail Assistant — Sainsbury's

Feb – Mar 2022

A fixed-term shop-floor contract: punctual, dependable and public-facing.

CAPABILITIES

Process Brief to specification · sketch ideation · prototyping · scientific testing · design for manufacture · costed bills of materials

Design Industrial design · ergonomics and human factors · drawing · colour, material and finish · identity · typography · art direction

Make Fusion 360 · SolidWorks · surfacing and rendering · injection moulding · cut-and-sew textiles · 3D printing

Technology Embedded electronics and sensing · PCB design · Bluetooth Low Energy · firmware in C · Python · signal processing · data analysis

Standards IEC 60601-2-10 · ISO 10993 · ISO 11469 · UKCA Class IIa awareness · WEEE · GDPR

EDUCATION

Loughborough University

Product Design & Technology BSc (Hons) - 2022-2026

The Skinners' School.

REFERENCES

Dr Steve Summerskill, final-year module leader, Loughborough University. Contact details on request.