Welcome.

Welcome. I am Liam Jones, a product research and design development engineer passionate about creating innovative, user-centric solutions. My journey is defined by a curiosity that challenges the status quo and pushes the boundaries of what's possible.

My portfolio showcases a diverse range of projects, from award-winning designs to pioneering product development. Each reflects my commitment to meticulous research, iterative design, and sustainable practices.

Engage with my portfolio, immerse yourself in my design process, and see how I envision a future where innovative technology and user-centred design seamlessly merge to enhance our everyday lives.

liam **jones**

use these proficiencies as a key to compare

Proficiencies

1. *innovative product visioning*
2. *collaborative leadership*
3. *design for human psychology*
4. *rapid prototyping and iteration*
5. *human-centred design*
6. *cad & rendering*
7. *development engineering*
8. *coding (ts, python, c+, swift, react native, flutter)*

research and design development engineer

*not associated

Beobridge **Connect**

industrial design
physical product

Proficiencies 1-8

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Objective

BEOBRIDGE CONNECT facilitates long-distance caregiving, forging strong **connections** between carers and the elderly, uniting families, and seamlessly introducing seniors into the world of technology.

The device **bridges** the gap that elderly people can experience with technology with a user-friendly interface and simple dial based input method. Also providing a means to adapt to an individuals dexterity from the first interaction.

More than a device, it is a gateway to the world of smart home devices designed with the elderly and their carers in mind.

Mahogany Slats

The hardwood slats ground the product and giving it presence. The floating undercut raises the product, making it stand out. Together they make the product a statement piece in the home.

Polished Aluminium

The metal bezel seamlessly extends the screen like a frame that enhances the picture. The subtle cool to the touch metal connotes B&O elegance.

Premium Textiles

Distinction from the aluminium retains the products homely ambience

Mahogany Base

Implementing classically premium materials grounds the product in B&Os product line-up

CAD & Product Assembly

From CAD to **Product**

- *research*
- *user research*
- *product vision*
- *ideation*
- *sketches*
- *focus group iterations*
- *cad*
- *iterative development*
- *user testing*
- *renderings*
- *manufacture & fab*
- *packaging*

Adaptive Motor Increments

Developing a bespoke quadrature encoder facilitated measuring 40,000 increments at 3000Hz polling rate. Allowing for real-time adaptive motor feedback to on-display interactions.

Haptic 3D touch

3D touch is achieved through hall-effect sensors and custom air-dampened springs, providing the premium B&O feel effortlessly visualised with encompassing gradient accent lights diffused around the products base.

fabricated within sub millimetre tolerances. the product is able to be free-span with no power, in addition to providing immense resistance.

i wrote 4,000 lines of code combined in python, c+ & js. including 2 pid controllers & 2 web servers (for functionality & alexa smart-home)

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Objective

Our goal in designing Aerial was to tackle soft mobility accidents caused by miscommunication and distraction, striving to enhance safety and information acquisition for novice riders.

Outcome

Aerial is a modular bike attachment that boosts rider safety. Designed utilising innovative design standards, Aerial is a seamless integration of safety and convenience, all in a simple, magnetic, clip-on device.

Unique Value Proposition

Aerial's unique value is its rider-centric design. Unlike most products that focus on outward communication, Aerial intuitively alerts riders to potential dangers, bringing a new level of assurance to bike safety accessories.

Aerial Alert

Reassured You're In Control

Two Sensors On Either Peripheral Of The Product Stand Detects And Warns The User About Passing Vehicles. These Warnings Are Projected Onto The Floor In Front Of The Bike, Where They Are Easy To Process And React To.

Aerial Protect

Proximity Protection

Sensors Detect Road Hazards, Like Potholes Or Ledges, As Rapid Changes In Ground Level Ahead Of The User. These Are Outlined In Bright Red, Which Allows Users To Adjust To These Using Only Their Peripherals

Aerial Guide

Innovation Through Navigation

The Destination Can Be Set Through The Intuitive And Accessible Phone App Before The Trip, And Travel Details Like Directions And ETA Estimates Are Sorted For The Entire Trip - Projected Ahead Of The User

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003

E.M.M.A

*It's the pet you **never** asked for!*

interactive design
physical product

Proficiencies
1-8

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Objective

To design & build an interactive, emotionally responsive mechanical arm (EMMA) that combines user engagement with an element of 'uselessness'.

Outcome

We developed a fully functional prototype of EMMA, which uses an AI camera to respond to user emotions and actions, encouraging interaction in a way similar to a pet and successfully integrating physical and emotional cues in a user-robot interface.

Code & Interaction

Enhanced interaction AI

Reactive Emotions

EMMA was programmed to interpret and react to the user's emotions, effectively **bridging the gap** between human and machine interaction. This unique feature **fosters an interactive experience** that mirrors human-like responses, making the interaction feel natural and comfortable.

Following your every move

Utilising an AI camera, EMMA is capable of tracking the user's movements in **real-time**, creating an engaging interaction that mimics being followed by a sentient being. This **advanced tracking** brings a unique dynamic to the product, adding a layer of intrigue and novelty.

TensorFlow

Product Assembly

Mechanism Iterations

Systems & Mechanics

EMMA's development hinged on iterative prototyping, a critical process for refining the robotic arm's movements. By designing a bespoke mechanism with a two-section, six-segment arm and through precise tuning of stepper motors and mechanical setups, it allowed for four degrees of freedom and independent control of each segment, leading to fluid and accurate movements that enhanced the user-robot interaction experience.

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Ancove

48hr Design Challenge

Imperial Makeathon Winner 2022

Project Management
Conceptual Design
Business Analyst
UX Design

Ancove & Ancove Frame, An IoT Product Winner At The 48hr Imperial Makeathon, Showcases Creative Integration Of Cutting-Edge Technologies For Noise Reduction, Business Propositions, And Effective UX Design, Demonstrating A Seamless Blend Of Technical Acumen And Design Thinking.

Proficiencies 1-3,5,6

Eco-Brush

Sustainability Design Project

Business model design for sustainable strategy & profitability.

Sustainable Business Modelling
Material Research
Consumer Research

The Sustainable Toothbrush Project Presents A Comprehensive Approach To Sustainability, Encompassing Innovative Product Design, Business Modelling, And Lifecycle Analysis, Highlighting A Commitment To Eco-Conscious Design Solutions.

Proficiencies 1,3,5-7

Imperial App

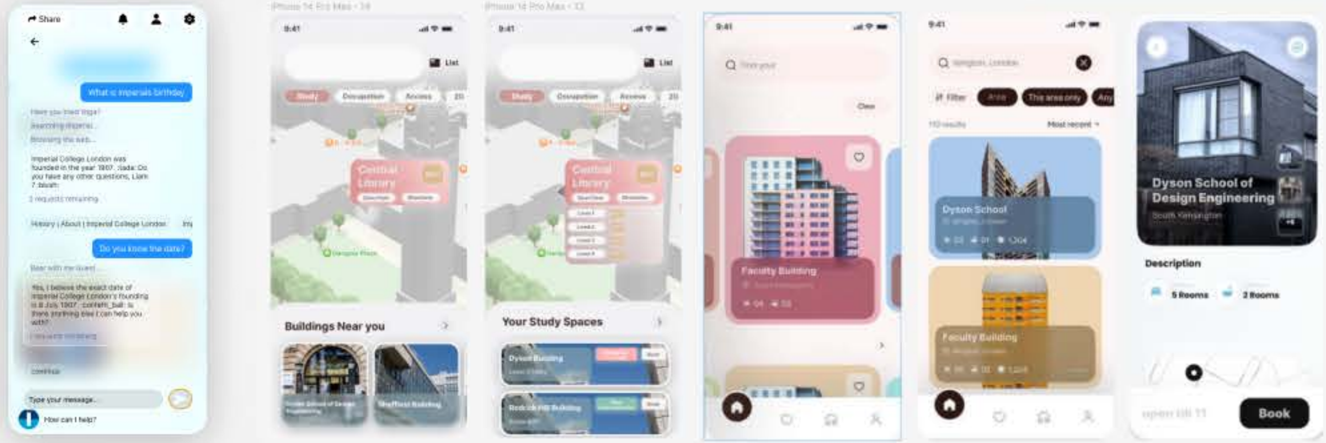
Imperial College London

Digital Campus Roadmap

R&DD Engineer
Vision Engineer
UI/UX Design

The Imperial App, A Pioneering Student-Facing Studies Tool Backed By Significant Institutional Investment, Exemplifies Meticulous UX/UI Design, Advanced AI Development, And An Innovative Approach To Campus Navigation And Space Management.

Imperial Chat *Imperial Campus*



Proficiencies 1-8

other projects *mixed selection*