

Portfolio and evidence pack

Bennett Anthony William Harris · applying for BEng Mechatronics and Robotics Engineering with Foundation Year, Middlesex University

07551 799506 · benharris.services@gmail.com · bawh.io · UCAS Personal ID 2083920468 · 26 August 2026

Six projects, each with a live page and a stated status. Nothing on this sheet is claimed as finished unless it is finished. Every entry links to the working page, so anything here can be checked rather than taken on trust.

THE WORK

01 · ROBOTICS HARDWARE

Project Palma

In development, first build under way

The open source ORCA hand as a base, running new models on it. Seventeen degrees of freedom, tendon driven, printable. I stay close to robotics by owning a piece of it: printing every component, assembling it, and finding out what it takes to make a machine hand do something useful. Nothing is claimed as built yet. Bill of materials under 2,000 CHF, which is the point: it keeps embodied machine intelligence inside a student budget.

palma.bawh.io

02 · CAD AND TECHNICAL COMMUNICATION

Technical Design Communication

Submitted complete and on time

A CAD mechanism study in Fusion 360: a wheeled case with custom wheel, badge and handle components and a telescoping handle constrained to twenty five millimetres of controlled travel. Delivered as a full package. Every part dimensioned in millimetres, an exploded assembly drawing, an eight step build manual, a physical mock-up and a motion demonstration.

lsbu.bawh.io

03 · EMBEDDED AND PHYSICAL COMPUTING

1D Mini

Completed

A complete video game constrained to a single line of LEDs. Addressable strip, microcontroller, hand cut acrylic wedge, game behaviour iterated directly on the hardware rather than in simulation.

1d.bawh.io

04 · MACHINE INTELLIGENCE INFRASTRUCTURE

Private Inferencing Core

In development, working core

A personally owned machine intelligence infrastructure project, built to keep data, memory and inference under local control rather than rented from a provider.

pic.bawh.io

05 · FABRICATION

Container Studio

In development, working environment

A shipping container converted into a working studio and fabrication space. Real structure, real services, built rather than rendered.

23.bawh.io

06 · DESIGN FOR MANUFACTURE

KIJIO

Manufacturing and development agreements signed, August 2026

Mobility and power products taken from design through tooling to certified manufacture with factory partners in Shenzhen. This is where I learned design for manufacture, tolerance, and what a compliance standard actually costs to meet.

kijio.bawh.io

WHAT I CAN ALREADY DO, AND WHERE TO CHECK IT

CAD modelling, Fusion 360	Technical Design Communication · lsbu.bawh.io
Engineering drawing, dimensioned to standard	Submitted drawing set, every part in millimetres · lsbu.bawh.io
Assembly and manufacturing documentation	Exploded assembly and eight step build manual · lsbu.bawh.io
Additive manufacture, print and assembly	Project Palma, ORCA hand · palma.bawh.io
Electronics, soldering, physical computing	1D Mini · 1d.bawh.io
Laser cutting and DXF preparation	SIK Display, first year · lsbu.bawh.io
Fabrication and workshop build	Container Studio · 23.bawh.io
Design for manufacture	KIJIO · kijio.bawh.io
Supplier, tooling and certification negotiation	KIJIO, twelve days in Shenzhen, August 2026 · kijio.bawh.io

NINE YEARS OF FACTORY FLOORS

2017

First visit to Shenzhen. Factory relationships direct from the second trip onwards.

9

Years of going back, across the whole of my working life so far.

12

Supplier meetings on the most recent trip, twelve days in August 2026.

6

Factory tours on that same trip, walking live production lines.

Not one trip. A working relationship with Chinese manufacturing, built visit by visit since 2017, and still running.

THE RECORD, STATED PLAINLY

Qualifications	IGCSE, 2012. Mathematics C, English Literature C, First Language English E. No Level 3 qualification of any kind. This is why I am applying to the route that includes a foundation year.
Higher education so far	2025/26, Year 1 of BSc Product Design and Technology at London South Bank University, admitted as a mature student with no Level 3. Teaching year completed. Not all assessments completed. Results are not yet published.
The pattern	The one module I did well in was the one where a tutor was reachable for an hour a week before the deadline. Where that hour did not exist, nothing was submitted at all. Not late, not weak, nothing. An hour of structured contact was the entire difference between a finished engineering package and a blank.
Assessment	Formally assessed on 13 May 2026, after every semester two deadline had already passed. The report confirms dyslexia and documents a profile consistent with ADHD, with formal ADHD assessment now under way privately. The Student Loans Company closed the funding application that follows an assessment on 12 August 2026, because the academic year had ended.
What I would ask you to weigh	Everything in this pack was made before any of that was diagnosed or supported. I am not asking to skip a stage. I am asking to start at the right one, with the maths taught properly from the beginning.

I will come to Hendon at no notice, bring the drawings and the hardware, and answer anything you want to ask about either. I would rather be judged on what I can make than on three IGCSEs I sat in 2012.

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