

Experience

2018
- 2019

Client work

Programmer (C/TS), Photographer

- A custom ecology data-entry and statistics tool with React
- A tool for event photography: backing up, correcting & converting, watermarking photos; generating web pages and uploading them

2017
- 2018

Open Source/Personal Projects

Programmer (primarily C)

- [Geometer](#) – 'no libs' compass/straight-edge drawing software; [Handmade Network blog](#)
- [Blit](#) – a family of tiny fonts for software renderers/embedded systems
- [Live Edit](#) – tools for helping reload, inspect and debug C(++) 'live'
- [Sweet](#) – a hierarchical C test suite
- [Colourblind](#) simulator & contrast checker (with GLSL alternative)
- [Twinstick Sumo](#) – 'no libs' simple 2D game created in self-imposed 2-day jam
- [Lout](#) – a small, brutish C header for XML output
- [timethis](#) – Windows equivalent to the linux `time` function/program
- Contributed various bug fixes and documentation updates to OS projects

Liv Systems

Human Factors Specialist

- Created in-house usability/standards-compliance JS web tools following ISO 9241
- Translated 'bug tracker' concept to HF issues with semi-custom PHP/MySQL DB
- Analysed HF issues for HMIs (& physical tools/environments) based on standards, heuristics, and conducting trials with end-users (e.g. railway signal management)
- Created, adapted and presented Axure UI/UX prototypes

2017

Loughborough University (head-hunted)

Data analyst/research assistant

- Compared natural human movement to that from sit-stand mobility aids
- Programmatically normalized and analysed ~300,000 mo-cap data points
- Provided non-programmer staff with time-saving excel macros (written in VB)

2013
- 2015

Miscellaneous Jobs

- **Ember Creations** – Founded leatherworking business during my gap year; crafted bags, knife sheaths, belts, keyboard wrist rests; full stack web dev, product photographer
- **Custom Design Technology** – Tracked and removed multiple XSS breaches from company websites; web dev (JS/PHP); created order-processing streamliner in Python
- **MainTool** – Created initial product design & prototypes for startup
- **Maths, Physics & English Tutor** – Credited with raising final exam result by 2-3 grades

Education

2014
- 2017

Loughborough University

Ergonomics and Human Factors Design

- Graduated with First (Honours); scholarship for highest mark in the year for all 3 years
- Modules: Psychology, UX/UI/HMI, stats, law, qual-/quantitative methodology, CAD/CAM
- Created very simple parser for simplifying the creation of Hierarchical Task Analyses
- Multiple presentations, team projects, gymnastics club committee member

2012
- 2018

Self-taught

- C, using Handmade Hero (and later Bitwise) as guide: see projects above
- Vanilla JS/TS, node/npm, React: primarily for internal tools
- Rust and Go: familiar with basic use, \made a few simple [web apps](#)
- Basic x86 assembly programs, largely to better understand debug disassembly
- Analogue & digital electronics, embedded programming: Arduino, STM32
- Linux: CentOS servers; Archlinux to make cheap old IBM laptops useful again