

# DANIEL HUMPHRIES

LONDON, EMAIL: DAN@AUFBAU.IO

## TOOLS & TECHNOLOGIES

---

**Software & Tools**      **Language:** Python // JavaScript // Rust // Haskell // SQL // C/C++  
**Front-end:** Svelte // React // Vue // Three JS // WebGL // WebGPU  
**Back-end:** Supabase // Flask // Docker // PostgreSQL // MongoDB  
**Full-stack:** GCP // AWS // Linux // GraphQL // Blender // PyTorch

## EDUCATION

---

**King's College London / University College London**      September 2024 -  
*PhD Candidate - London Interdisciplinary Doctoral Programme*      London, UK

- Applied Mathematics at King's College London. Computational Neuroscience at University College London.
- Discrete Graphs, Hopfield Networks, Computational Modelling (Schizophrenia), Applied Pure Mathematics.

**King's College London**      September 2021 - September 2022  
*MA Philosophy*      London, UK

- Course of study focused on Kant's First Critique, Representation, and Epistemology.
- Masters Dissertation: 'Carving the Mind at its Joints' with Prof Bill Brewer

**University College London**      September 2014 - May 2018  
*MSci Neuroscience*      London, UK

- Course of study focused on Computational Neuroscience and Dynamical Systems.
- Masters Dissertation: 'Dendritic Spine Stability during Regulative Homeostasis' with Prof Tara Keck
- Bachelors Dissertation: 'Neural Oscillatory Rhythms: Physics & Function' with Dr Lorenzo Fabrizi

## RESEARCH

---

**Universität Leipzig / MPI MiS**      Dec 2023 - March 2024  
*Research Intern // Web Engineering*      Leipzig, Germany

- Worked with Dr Erika Roldan Roa to build an interactive website for ML based mathematical research projects.
- Python code for computer vision analysis runs in browser; website: <https://fence-challenge.vercel.app>.

**University College London**      June 2023 -  
*Research Assistant // Systems Engineering*      London, UK

- Working with Dr Daniel Bush on topics in spatial representation and neuroinformatics.
- Building a real-time, closed-loop stimulation system for manipulating Sharp-Wave Ripples in human subjects.

**University College London**      October 2022 - May 2023  
*Research Assistant // Analysis Pipelines*      London, UK

- Working with Dr Alexandra Constantinescu in Professor Neil Burgess's group at the UCL ICN.
- Building custom 7T fMRI analysis pipelines.

**University of Oxford**      July 2021 - August 2022  
*Research Assistant // App Development*      Oxford, UK

- Creating a mental state tracking tool with Dr. Dan Joyce, a computational and clinical psychiatrist.
- Lightweight and customisable tool to facilitate psychiatric research on the dynamics of mental state over time.

## PROFESSIONAL

---

**VSProwess**      January 2023 -  
*Graphics Engineer (Contract)*      London, UK

- Bespoke 3d data renderer in Rust/C++. Rendering 1e6 - 1e9 voxels simultaneously and interactively.

**Midnight Agency**

March 2022 - September 2022

*Senior Fullstack Engineer (Contract / Freelance)**London, UK*

- Senior Fullstack engineer within a creative technology web agency. Autonomous position among technical leads.
- Tech Stack: Svelte // React // Three JS // Next // Vercel // Docker // CMS // WebGL

**Hexis**

November 2021 - February 2022

*Senior Fullstack Engineer (Contract)**London, UK*

- Fullstack developer. Contracted to take start-up from prototype to app store release. Scoped, hired, and led a team (react native developer and junior developer) to deliver a robust and scalable application within 4 months.
- Tech Stack: React Native // Next // GCP // Apollo // GraphQL // Docker // Firebase

**Kubrick Group**

July 2020 - August 2021

*Fullstack Software Engineer**London, UK*

- Fullstack software engineer on a greenfield community learning platform. Vue.js and Nuxt app deployed on AWS.
- First Project engineer. Hired and led technical team to take product from concept to MVP with DevOps strategy.
- Tech Stack: Nuxt // Vue // D3 // Python // PostgreSQL // MongoDB // AWS // Docker

**Procter & Gamble**

November 2018 - June 2020

*Machine Learning Engineer**Reading, UK*

- Engineer and co-architect on a microservice-based data network & machine learning platform. Bespoke system enabled large multinational to run distributed machine learning models on data assets stored across continents.
- Tech Stack: Python // Vue // Flask // Celery // Docker // PostgreSQL // MongoDB // CUDA // Linux

**OTHER****Bartlett School of Architecture**

July 2021 - September 2022

*Computational Soul: Guest Seminar**London, UK*

- Invited to run guest seminar on 'computational soul' as part of the Xalon Digital-Communities lecture series.
- Discussed the notions of soul and representation in objects, and what it takes to synthesise 'computational soul'.