DANIEL HUMPHRIES

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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 pathematics.

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

- Course of study focused on Kant, Mind, Meta-Metaphysics, Communication, and Representation.
- 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 Janurary 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'.