Matthew Barty (mattbarty.com)	linkedin.com/in/matthew-barty/
UX & Human Factors Consultant | Creative Technologist	Matthew.barty@outlook.com

Cross-functional in UXR/D, Human Factors, Clinical Data Science, and Programming - I have 6 years researching, designing, developing, and leading cross-functional teams in the MedTech space, including consumer diagnostics, therapeutic implants, surgical intervention & imaging equipment, and surgical robotics
– I also do *a lot* of personal projects.

Technical Skills

UX Engineering	In-depth interviews, workshop leadership, quant & qual data analysis, simulated use study, formative & summative (validation) testing, HCI design, Figma wireframing
UX Design	Adobe Photoshop, Illustrator, InDesign, Premiere, Figma
Scripts & Development	JavaScript, TypeScript, React, NextJS, TailwindCSS, Git, NodeJS
Data Science	Python, Pandas, TensorFlow, Numpy, Scikit-learn, Matplotlib, SQL, R, Machine Learning, Deep Neural Networks, Artificial Intelligence, LLMs

Professional Experience

The Technology Partnership (TTP), UK	2022 – Present
UX & Human Factors Consultant | Creative Technologist	

• Lead projects in end-to-end design & execution of UX strategy across HealthTech and Life Sciences teams
• Responsible for prospection and prosecution of market opportunities in UX, usability, and AI
• Championed design thinking, leading cross-functional teams in ideation workshop and independently organising upskilling Lunch&Learns, community activities, and internal clubs
• Presenter and panellist at digital health world congress 2024

CMR Surgical, UK	2018 – 2022
Human Factors Engineer & Clinical Data Scientist	

Data Science

• Architectured early-stage systems and processes for processing real-world surgical data from surgeries,
• Identified and resolved data quality issues through statistical analysis and data validation,
• Designed processes to dashboard and visually represent customer-level surgical performance metrics

Human Factors Engineering / UX Research & Design

• Executed successful full-system validation study of the Versius surgical robotics system,
• Planned, executed and analysed data on over 20 usability studies (formative and summative) with surgeons, nurses, and other HCPs during the UX development of the Versius robotic surgery system,
• Designed digital systems to programmatically review, develop, and quality-check complex risk management strategy documents for surgical robotics system,

Education

University of Cambridge, UK	2020 – 2022
MSt Healthcare Data: Informatics, Innovation & Commercialisation	
Loughborough, UK	2014 – 2018
BSc Ergonomics: Human Factors	

Projects

Professional Projects

In CMR & TTP, much of my work is highly confidential – I am open to discussing high-level details in conversation.

I played key roles in the leadership, design, and development of core UX features in consumer diagnostics, chronic-disease management systems, therapeutic implants, surgical intervention & imaging equipment, and a world-class surgical robotic system (Versius). In addition to this, I have also worked on autonomous systems, AR/VR, and life science projects as an individual contributor.

Personal Projects

I program a lot in my spare time. I design mock interfaces, trial emerging technology, and hone my skills in programming, data analysis/visualization, and general ML/AI techniques.

I post most my projects on LinkedIn (portfolio site in development), but here are some of my favorite projects:

Live Sudoku Solver (Computer Vision & ML) – [**link**]

Developed a real-time Sudoku Solver utilizing a custom-trained Optical Character Recognition (OCR) neural network model. The application processes live video frames to isolate and warp the perspective of the Sudoku grid, recognizes characters, and solves the puzzle. Post-solving, it projects the solution back onto the original frame, providing real-time feedback.

Technical stack: TensorFlow, Machine Learning, Python, OpenCV, Optical Character Recognition (OCR), Neural Network Training, Real-Time Processing, NumPy

WhatsApp Language Plugin (GCP API, Chrome Extension) – [link 1, link 2]

Developed a Chrome extension for real-time translation on WhatsApp Web to tackle personal language comprehension hurdles. The extension, using Google Cloud's Translate API, offers a personalized language learning aid by seamlessly translating chats in real-time. Although in early development, the proof-of-concept shows promising potential.

Technical stack: JavaScript, Chrome Extension Development, Real-Time Translation, Google Cloud Translate API, Client-Side Processing, Proof-of-Concept Development, Real-Time Communication Applications

ArcanaGPT (Tarot-inspired webapp) – [**link 1**, **link 2**]

Developing a Tarot-inspired web app utilizing modern UX design, generative AI, and digital art techniques. The concept demo was prototyped in Figma with art assets created in Midjourney and Adobe Creative Cloud Illustrator, and content generated using GPT-4, aiming for a clean, intuitive, mobile-first user experience.

Technical stack: Figma (Prototyping), Midjourney (Art Asset Generation), Adobe Creative Cloud Illustrator (Digital Art Design), OpenAI ChatGPT4 (Content Generation), UX/UI Design, Mobile-First Design, Generative AI

Linkedinfluencer.app (Web development, AI) – [**link**]

Completed a humorous side project named www.LinkedInfluencer.app. This application serves as a parody post generator, creating whimsical and unpredictable captions reminiscent of notable LinkedIn personalities. Utilizing a combination of Next.js for the structure, Tailwind for styling, and integrating AI technologies like Langchain, BLIP-2, and GPT-3.5, we successfully brought this quirky concept to life, offering a lighthearted take on AI-generated content.

Technical stack: Next.js, Tailwind CSS, Langchain, BLIP-2, GPT-3.5, AI Integration, Web Development, Creative Technology, rapid prototyping, UI/UX Design