



Liam Clancy (metafeather)

I am a daily IC with mastery of many Web Technologies. I apply Design Management methods to the intersection of software engineering, research and creative design, resulting in key contributions to startup successes; including 5yrs at Google DeepMind.

With a positive and diligent attitude to tasks, and a proven interest and ability to learn new skills, I can own a product or lead a team to reliably deliver to business objectives in fluid or remote environments at all levels.

I prefer to work with ethical, progressive and innovative organisations, especially those trying to: **Solve intelligence, use it to make the world a better place.**

I am interested in substantive, design led products supporting researchers, data insights and the creation of extraordinary web applications for big data visualisation. Recently my focus has been on DX tooling and interactive evaluation and safety metrics for machine learning models for use by research leadership.

As an experienced 'everything' engineer I have the ability to build full end-to-end systems and to place these in users hands with no compromises.

WORK & PROJECT SUMMARY

Staff Software Engineer, **Macrocosmos**, Oct 2024 - present

- core team employee #4, self bootstrapped AI incubator building 5x Bittensor Subnets
- design and creation of product and research team development platforms, tooling and apps
- mentoring and leadership of ML/AI research teams and applied AI product development

Tech Lead, Kids Intelligence (Machine Learning Platform), **SuperAwesome**, Mar 2021 - Sep 2024 (3y6m)

- acquired by Epic Games in Feb 2021
- tech lead *Measurement*: operational data and evaluation metrics, product insights visualisation web UI
- tech lead *MLPT*: DX led creation and delivery of a full lifecycle MLOps platform, tools and UI's from data ingestion to model serving and evaluation
- tech lead *Kid Safe Video*: ML and human discovery, eval and moderation of Youtube Channels at scale

Senior Software Engineer (Applied Machine Learning), **General Intelligence**, Jun 2019 - Aug 2020 (1y2m)

- employee #9, privately funded early stage startup
- tech lead *Insight*: predictive stock model evaluation, data quality and visualisation web UI
- UI lead *CX2*: carbon capture marketplace, evaluation metrics and map/satellite/Copernicus visualisation

Software Engineer (Applied Machine Learning), **Google DeepMind**, Jun 2013 - Oct 2018 (5y5m)

- employee #56, acquired by Google in Feb 2014
- product owner *Leaderboard*: ML research platform, evaluation metrics and game task visualisation
- product owner *XObserver*: real-time embedded web UI debugger for distributed ML environments
- data owner *Google Play & YouTube*: reinforcement learning (RL) research & roadmap; model train, test, deploy & evaluation production pipelines
- product owner *Kitsee*: fashion industry data quality, editorial, taxonomy & expert learning web UIs

Co-founder and Senior Software Engineer, **Causata**, Jun 2008 - Nov 2012 (4y6m)

- employee #2, funded by Accel, acquired by NICE Systems in 2013
- founder *jsHub*: analytics and ad serving framework; quality tools, microformats advocacy
- tech lead *Insight*: multivariate predictive modelling evaluation and data visualisation web UI

Senior Software Engineer, **TouchClarity**, Jan 2006 - Jun 2008 (2y6m)

- acquired by Omniture in 2007 to become Test&Target
- product owner *Tagging*: customer analytics and ad serving libraries (replacing Omniture and Offermatica's)
- developer customer ad inventory and evaluation web UIs

Software Developer, **ClearlyBusiness**, Aug 2002 - Nov 2005 (3y3m)

- acquired by Barclays 2004
- tech lead *Barclays Business Manager*: an engagement driven business lifecycle suite
- product owner ATG Dynamo user personalisation & Interwoven TeamSite CMS web content

Senior Web Engineer, <kpe>, Aug 1999 - Jul 2002 (2y11m)

- employee #4 in UK, a startup incubator that spectacularly imploded in the DotCom bubble
- tech lead *E4*: multimedia web content portal for Channel4
- UI lead *Fotango*: online photo management portal

EDUCATION

BA (Single Honours) **Design Management**, UCA, Oct 1993 - Jun 1996

Specialism: corporate communications and technology

Additional studies: 16mm stop motion animation

SOME SKILLS

- o mastery of Web Technologies; advanced real-time front-end interactive big data visualisation UIs
- o experienced everything engineer, 1996-2024 (28 years); frontend, backend, cloud, kubernetes, web
- o co-founder or key contributor to multiple startup-to-acquisition successes
- o applied machine learning at scale; big data cloud processing, analysis and quality evaluation; AI ethics, bias correction, explainability, reproducibility, auditing and privacy regulation
- o feature driven agile end-to-end full stack software platform lifecycles; user, unit & integration testing, bug triage
- o api, library & framework design, training and developer avocation
- o brand experience, graphic and design management; UXE, UX & UI research, DX, pattern assessment
- o science communication; technology solution design, greenfield projects
- o technological history & strategy adoption; reverse engineering and legacy migration; code archeology
- o user requirements, story mapping, product development, roadmap design & delivery

SOME TECHNOLOGIES

- o many language and tool proficiencies, most >10,000 hours
- o Golang, gRPC, Protobuffers, GraphQL, OpenAPI, WebSockets, SSE, REST, SQL
- o HTML5, CSS, JS (ES3/6/7+), DHTML, AJAX, D3, Vega, React, Vue, Angular, ExtJS, Web Components (Lit, Svelte, Polymer, Perspective), Node.js, Webpack, Esbuild, Typescript, WASM, Mapbox, Backbone.js, Flash
- o Python 2/3, (Jupyter, Pandas, Sci libs), Tensorflow, TensorBoard, TFX, Kubeflow, MLFlow, Django, DBT
- o Snowflake, Snowpark, GCP, BigQuery, AppEngine, Docker, AWS, Athena, S3, Dremio, Apache Arrow
- o Ruby, Ruby on Rails, Perl, PHP, Scheme
- o Rust, Unity, C#, Lua, C++
- o Java, Spring, Servlets, JSP, XSLT, Maven, Ant
- o Kustomize, Helm, Docker, npm, Yarn, Git, Nix, Homebrew, Mercurial, SVN, CVS

SOME INTERESTS

- o reading; designing/playing computer & RPG games; theatre & comedy nights
- o science fiction history and culture; utopias, dystopias, first contact scenarios
- o scuba diving & travel; Galapagos, Central Americas, Mexico, Egypt, Iceland, shipwrecks, sharks & seals
- o children's education, theory of mind, mindfulness & meditation
- o playing rock songs on acoustic guitar badly

SOME PROJECTS

Tech Lead, Kids Intelligence (Machine Learning Platform), SuperAwesome, Mar 2021 - Sep 2024 (3y6m)

SuperAwesome is dedicated to building a safer internet for the next generation and provides the tools for safer, responsible digital engagement with almost half a billion young people worldwide every month. SA was acquired by Epic Games to provide parental verification services for Fortnite and other games.

I was hired to add Machine Learning capabilities to all engineering teams. Using experience gained working on multiple nascent ML platforms in previous roles with Applied and Research teams, I prioritised Developer Experience (DX) and I personally designed, created, deployed and maintained a production end-to-end ML Platform (*MLPT*) for use in Kids Intelligence products and other teams at Epic Games.

My platform established a principled and scientific self-service development workflow, with full observability, data lineage, reproducibility and explainability of live models, informed by my previous work with Sibyl and TFX at Google, supported by MLOps tooling in Golang and CNCF projects from **Kubeflow**.

The platform also conforms to COPPA and GDPR-K data handling responsibilities, and I was a data auditor during the implementation of Epic Game's PII remediations required by its 2023 settlement with the FTC.

MLPT was used to scale the SA *Kid Safe Video* catalogue ~3,300% YoY through remoderation prioritisation gains, and validate engagement rate metrics during the launch of LEGO Fortnite in 2023.

The operational data from *MLPT* has become the foundation for our org wide *Measurement* project which I currently lead.

<https://www.superawesome.com/about-us/company/>

Google DeepMind, Software Engineer (Applied Machine Learning), Jun 2013 – Oct 2018 (5y5m)

DeepMind is the world leader in artificial intelligence research and its application for positive impact. DeepMind was acquired by Google in 2014 and is now part of the Alphabet group.

As a Software Engineer in DeepMind's Applied team I became deeply acquainted with Google's internal technologies and data platforms, software methodology and applied ML techniques, particularly **reinforcement learning**.

In 5yrs I worked on many Applied and Research projects using data and machine learning at scale and contributed to the joint Google/DeepMind RL research roadmap. My code is in production for recommender improvements for Youtube Watch Next and slate recommendations & icon analysis for Google Play Store. In Dec 2017 I prevented the loss of ~\$170m Google Play revenue by detecting that upstream interruptions in data were training stale models.

I eventually lead the Worlds team overall **task and evaluation leaderboard** due to my commitment to providing researchers with accurate and timely data and feedback across 50+ environments.

I also had considerable influence on the use of UX design, web technology and data visualisation techniques throughout DeepMind including the public website, recruitment, the adoption of **Colaboratory**, creation of **Golang** libraries and web components used for real-time interactive debugging of research experiments, and even the timer used in the televised AlphaGo games.

<https://deepmind.com/>

Causata, Co-founder and Senior Software Engineer, Jun 2008 – Nov 2012 (4y6m)

Funded by Accel, Causata was a multi-channel predictive behavioural analytics platform using RL machine learning developed in partnership with David Silver whilst at University College London (UCL).

I was invited to be co-founder of the company with the responsibility of producing a professionally designed, vendor neutral, open source web analytics javascript library for data capture and content serving. This project became **jsHub** and, after it was reviewed by members of the Google Analytics, Webtrends, Omniture and Coremetrics engineering teams working on a *Universal Tag* solution, it was adopted by Causata as a core component of their platform, as it was able to collect and respond to more data in a more efficient manner than other solutions available.

For the jsHub project I also developed advanced processes for the automated testing and deployment of web UX and this technology was adopted by Causata as their QA platform, directly leading to the improvement of their in-house, high performance javascript framework for data analysis and visualisations (used in **Insight**), as well as enabling the redevelopment of key, but less performance critical, applications.

I then lead the design and delivery of further high-quality UX's for other areas of their platform including Decisioning, Variable Management, and Query Builder, which utilised **MCTS**, **RL** and **bandit algorithms**.

Causata was successfully expanding its client base and technology across the US competing with Adobe, SAS, IBM and Oracle when it was acquired by NICE Systems in 2013.

<https://en.wikipedia.org/wiki/Causata>

Omniture Test&Target (TouchClarity), Senior Software Engineer, Jan 2006 – Jun 2008 (2y6m)

Omniture provided business intelligence solutions for online clients, including fully automated Onsite Behavioural Targeting and reporting.

I was recruited by TouchClarity to professionalise and productise the framework responsible for all *Data Capture* and *Content Serving* on client sites, utilising best practices garnered from my own years of web platform experience, and emerging techniques from the newly revitalised open source javascript and front-end engineering communities (initiated by the widespread adoption of AJAX techniques).

This involved putting in place all processes for the development, testing, QA and deployment of all javascript resources throughout the company and customisation for its clients, as well as the ongoing training and support at all levels of browser based technologies as a whole, including their effective use in traditional web UX's, CMS, and in other products.

In the month of June 2007 alone, my code was responsible for more than 1 billion safe Data Capture and Content Serving transactions on Bank of America's homepage.

After our acquisition by Omniture in 2007 the product suite was rebranded **Test&Target** and during the subsequent merger with Offermatica I was responsible for javascript implementation and UI integration strategies. Omniture was itself later acquired by Adobe in 2009.

<https://en.wikipedia.org/wiki/Omniture>

Barclays Clearlybusiness, Software Developer, Aug 2002 – Nov 2005 (3y3m)

Barclays Clearlybusiness was a financial product development and support channel for Barclays Small Business clients and joined the innovation unit after acquisition in 2004.

As the sole software developer my role was to initiate the analysis and re-deployment of their existing £1M banking certified 3 tier web platform, deployed with ATG Dynamo Personalisation (J2EE App Server) and Interwoven TeamSite (CMS), to create innovative and effective revenue streams.

An early project was the design and implementation of the Clearlybusiness Accountants affiliation programme that enhanced the existing penetration of Clearlybusiness software with Barclays clients through personalised email marketing and editorial content.

The most complicated project was the implementation of the server-side infrastructure for *Barclays Business Manager*, a subscription token based authentication framework, including the design and development of the end user web administration, configuration and management application and content deployment administration and data collection.

This platform also further developed the affiliate services supplied to members of the Clearlybusiness Accountants programme.

Barclays Business Manager became a successful revenue stream for Barclays bank, and its first with a subscription business model. Further funding for the project was secured for its expansion into South Africa and other markets.

<https://www.linkedin.com/company/clearlybusiness/>

E4.com, Senior Web Engineer for <kpe>, August 2000 – September 2001

The E4 web-site was a broadband entertainment portal that supported the launch of the Channel4 TV entertainment channel in 2001.

The E4.com interface required the development of a client-side DHTML API, and integration with server-side JSP and an Interwoven CMS to create a desktop-like UX that provided simultaneous access to broadband categorised content in many media formats (Flash, DHTML, Real, Java Applet) at a time of the *Browser Wars* between Microsoft and Netscape.

My role was to develop and implement the unique client-side UX that allowed users to access the content along with the Content Toolkit and SDK for 3rd party content creators for use in development of microsites and other media rich entertainment such as Have I got New For You, Trigger Happy TV, Dare 4 Dosh, Popworld, So Graham Norton, Action Stan, Show Me The Funny, Banzai. The DHTML API was developed with the open source project *DynAPI2*, and was built in OO javascript.

My responsibilities also included the QA of the API, generation of customisable interface widgets, and functional extensions to add support for Netscape 6's release during the project period.

I was also required to develop and administer the server platform and CMS setup including training of Channel4 Editors, extensive consultation regarding the workflow and interface design and the solution of many unique content browser and plug-in media related issues. Bespoke solutions to enable CMS context based preview, search engine accessibility and advertising server connectivity were also developed.

E4.com was the first site of its kind in Europe. Shortly after launch, the site was reaching 1.3 million U.K. adults between the ages of 16-34 every week, and now having achieved its goals was wholly incorporated into the main Channel4 website. Newspaper reviewers at the time could not believe that it was not a Flash based website.

[https://en.wikipedia.org/wiki/E4_\(TV_channel\)](https://en.wikipedia.org/wiki/E4_(TV_channel))

Fotango.com was initially conceived as an online photography site. All activities are managed behind a security system to protect the privacy and copyright of its members.

My role was the complete implementation of the client-side requirements of this project including competition research for the project pitch, IA and user-flow development, design interpretation and code generation of the back-end templates (in Perl).

Fotango.com became the first European site of its kind and became recognised as one of the first Platforms as a Service (PaaS), beating Kodak to the European market. Fotango was acquired by Canon Europe in 2001.

<http://www.fotango.com/> (archived)