



## Liam Clancy (metafeather)

I am an expert in HTML5 and the Web Platform, and since 1996 I have applied Design Management methods to the intersection of software engineering and creative design, and been a key contributor to startup successes; including 5yrs at Google DeepMind.

I am a design and software professional who excels at problem solving. With a strong technical and visual design background, a proven interest and ability to learn new skills, and able to communicate at all levels, I can own a product or lead a team to reliably deliver to business objectives in fluid or remote environments.

I have a positive and diligent attitude to tasks and 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 research, data quality and the creation of extraordinary web applications for big data visualisation. My recent passion has been developing interactive evaluation metrics for machine learning models for use by research leadership.

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

### WORK & PROJECT SUMMARY

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 visualisation

Software Engineer (Applied Machine Learning), **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 modeling 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 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
- tech lead *Betfair*: successful funding prototype demo

### EDUCATION

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

Specialism: corporate communications and technology

Additional studies: 16mm stop motion animation

## SOME SKILLS

- expert HTML5 & Web Platform; advanced real-time front-end interactive data visualisation UIs
- experienced everything engineer, 1996-2020 (24 years); frontend, backend, cloud, web, mobile
- co-founder or key contributor to multiple startup-to-acquisition successes
- applied machine learning at scale; big data cloud processing, analysis and quality evaluation; AI ethics, bias correction, auditing and privacy
- feature driven agile end-to-end full stack software platform lifecycles; user, unit & integration testing, bug triage
- api, library & framework design, training and advocacy
- brand, graphic and design management; UXE, UX & UI research, pattern assessment
- science communication; technology solution design
- technological history & strategy adoption; reverse engineering and legacy migration; code archeology
- user requirements, product development roadmap design & delivery

## SOME TECHNOLOGIES

- many language and tool proficiencies, most >10,000 hours
- Golang, gRPC, Protobuffers
- HTML4+5, CSS, SASS, JS (ES3/6/7+), AJAX, WebSockets, D3, Vega, Vue, React, Angular, ExtJS, WebComponents (Lit, Stencil, Polymer, Perspective), Node, Typescript, WASM, Mapbox
- Python 2+3, (Jupyter/Colab, Numpy, Sci libs), Tensorflow, TensorBoard, TFX, MLFlow, Flash, Django
- BigTable, GCP, AppEngine, Docker, Athena, AWS, Demio, Apache Arrow
- Unity, C#, Lua, C++
- Ruby, Ruby on Rails
- Perl, PHP, Lisp
- Java, Servlets, JSP, XSLT
- GraphQL, SQL, Git, Hg, npm, Yarn, SVN

## SOME INTERESTS

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

## SOME PROJECTS

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 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 machine learning.

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** and **bandit algorithms**.

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

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

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

Omniure 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 javascript 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 (due to 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 Omniure 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. Omniure was itself later acquired by Adobe in 2009.

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

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

Barclays Clearlybusiness is a financial product development and support channel for Barclays Small Business clients.

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 is 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*.

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, Senior Web Engineer for <kpe>, September 2000 – March 2001

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)