

# Zdenek Hynek

## Full-stack developer

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in zdenek-hynek-526a252b

Zdenek is a full-stack developer with 10 years of experience in developing innovative and data-rich websites, platforms and digital products. He works at the intersection of data and tech, strives to make complicated things simple and enjoys deleting old code.

During his career, Zdenek has co-founded a data-design studio, worked as a lead developer at Signal Noise and been a research assistant at Oxford University.

He runs [Visualising Data London](#), hosts [Intro to AI workshop](#), team leads design sprints at [Data4Change](#) and occasionally writes and speaks about his work.

Zdenek holds MSc in Geoinformatics and can operate balloons in a high-pressure environment.





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### EXPERIENCE

SYNTENSOR	FEB 2021 - NOW
<i>Lead developer</i> Developing biotech platform and prototypes	
CONTRACTOR	NOV 2018 - FEB 2021
<i>Archax - Full-stack developer</i> <i>Data4Change - Head of development</i> <i>RedSift - Full-stack developer</i>	
SIGNAL NOISE	FEB 2016 - NOV 2018
<i>Full-stack developer</i> Leading development work on agency projects	
OXFORD UNIVERSITY	MAY 2015 - FEB 2016
<i>Research Assitant</i> Development of a chart building tool	
GEOGRAPHICS	NOV 2008 - NOV 2015
<i>Co-founder and full-stack developer</i> Leading business and web development	

### SKILLS

FRONTEND
<i>Javascript ES6/7, Typescript, React, Redux, d3.js, SVG, canvas, WebGL, Mocha, Chai, Webpack</i>
BACKEND
<i>Python, Django, Node.js, Express, PHP, Mysql, Postgres, MongoDB, ElasticSearch</i>
DEVOPS
<i>Docker, AWS, Heroku</i>
DATA SCIENCE
<i>Basics of Tensorflow.js, PyTorch, ml5.js, Pandas, Numpy and Scipy</i>
TOOLS
<i>Adobe CC, Figma, Sketch, Houdini, QGis</i>

### EDUCATION

DATA SCIENCE INTENSIVE	MAR - JUN 2017
<i>Springboard</i> An online course covering the basics of data science in Python	
MASTER OF SCIENCE	2006 - 2011
<i>Masaryk University</i> MSc in Geoinformatics with exchange stays at the University of Arizona and École Normale Supérieure de Lyon.	

### AWARDS

- [KANTAR - Information Is Beautiful Awards 2018](#)
- [On Think Tanks - data viz competition, Jan 2014](#)
- [The FWA Mobile of the day, Oct 2013](#)
- [The FWA Site of the Day Award from 3th May 2013](#)
- [The FWA Site of the Day Award, 10th January 2012](#)

Selected work

# Syntensor

🌐 [in private alpha](#)

📄 Digital product

✂ Javascript, React, D3.js, Node.js, Express, MySQL, Elastic-Search, Python, PyTorch, AWS

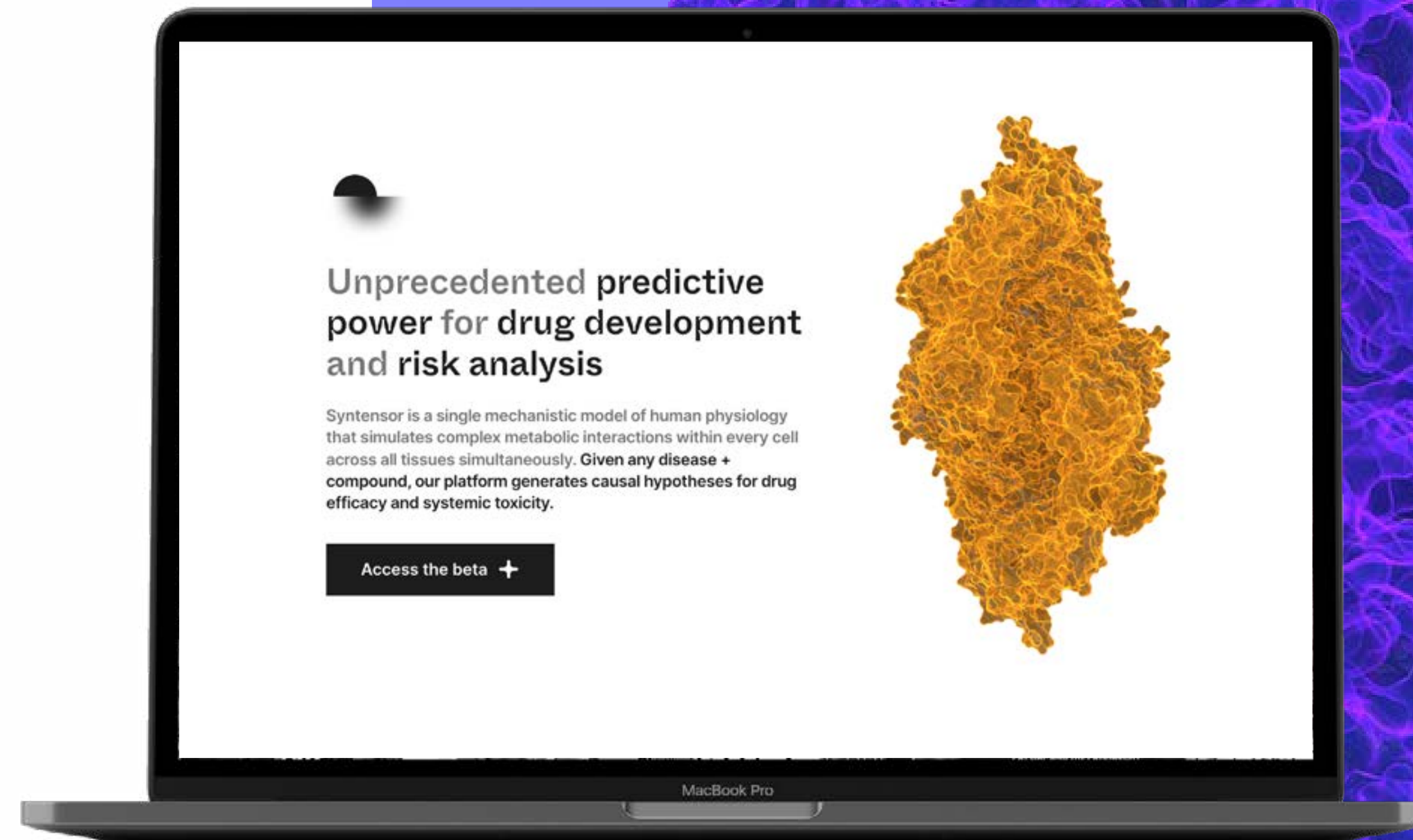
A digital platform for analysing inferences of ML model predicting the effect of a drug candidate on human biology.

## Role

Full-stack developer building an alpha version of a platform with a React app and Node REST API..

## Key challenges

- Designing and building efficient backend ingesting GBs of data.
- Building complex UI allowing for the analysis of millions of data points.
- Keeping clean codebase despite rapid iteration of PoCs.
- Learning functional basics of biology, chemistry and mathematics.
- Learning essentials of distributed computing and AI model infrastructure.






Selected work

# Reimagine the Game

 [reimaginethethegame.economist.com](https://reimaginethethegame.economist.com)

 Static microsite

 Javascript, WebGL, React, D3.js, React Static, Tensorflow.js, Node.js, FFMPEG

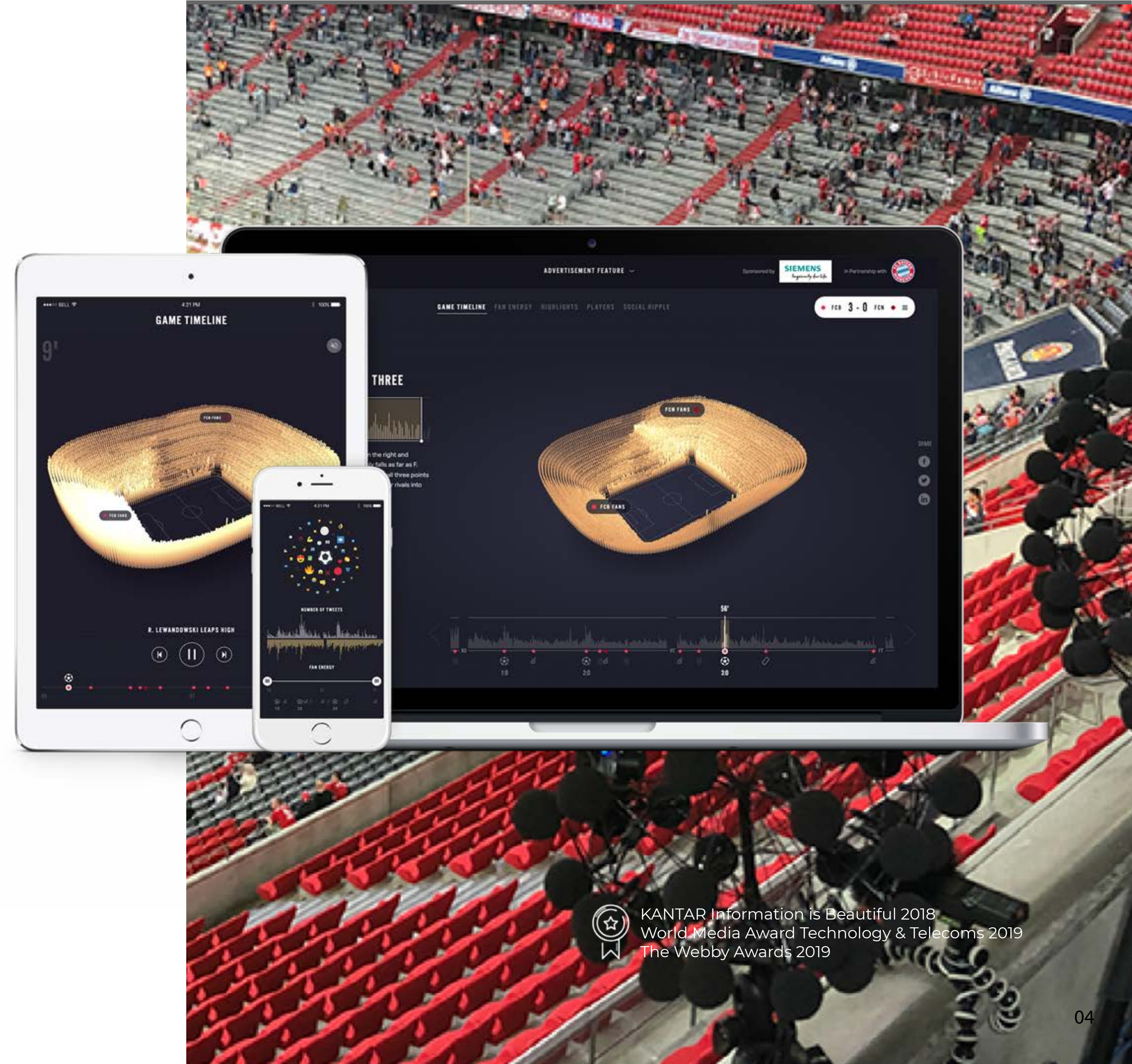
A data-driven microsite telling a story of FC Bayern matches with thousands of data points captured within key moments in the game.

## Role

One of the lead developers. Designing overall architecture, developing data-processing pipelines and bespoke visualisations.

## Key challenges

- Collaborating with audio engineers on designing a bespoke pipeline for 3d audio processing.
- Training a machine learning model for digit recognition in a video.
- Design processes and developing tooling which would enable curation and processing of data during and after the game.
- Developing a large number of flexible visualisations allowing for quick prototyping.
- Ensuring functionality of audio players and WebGL visualisation across all target browsers and devices.





Selected work

# Uproar Tools

 [tools.uproar.fyi](https://tools.uproar.fyi)

 Digital product

 Django, Python, Selenium, Postgres, Elastic Beanstalk, React, D3.js, Javascript

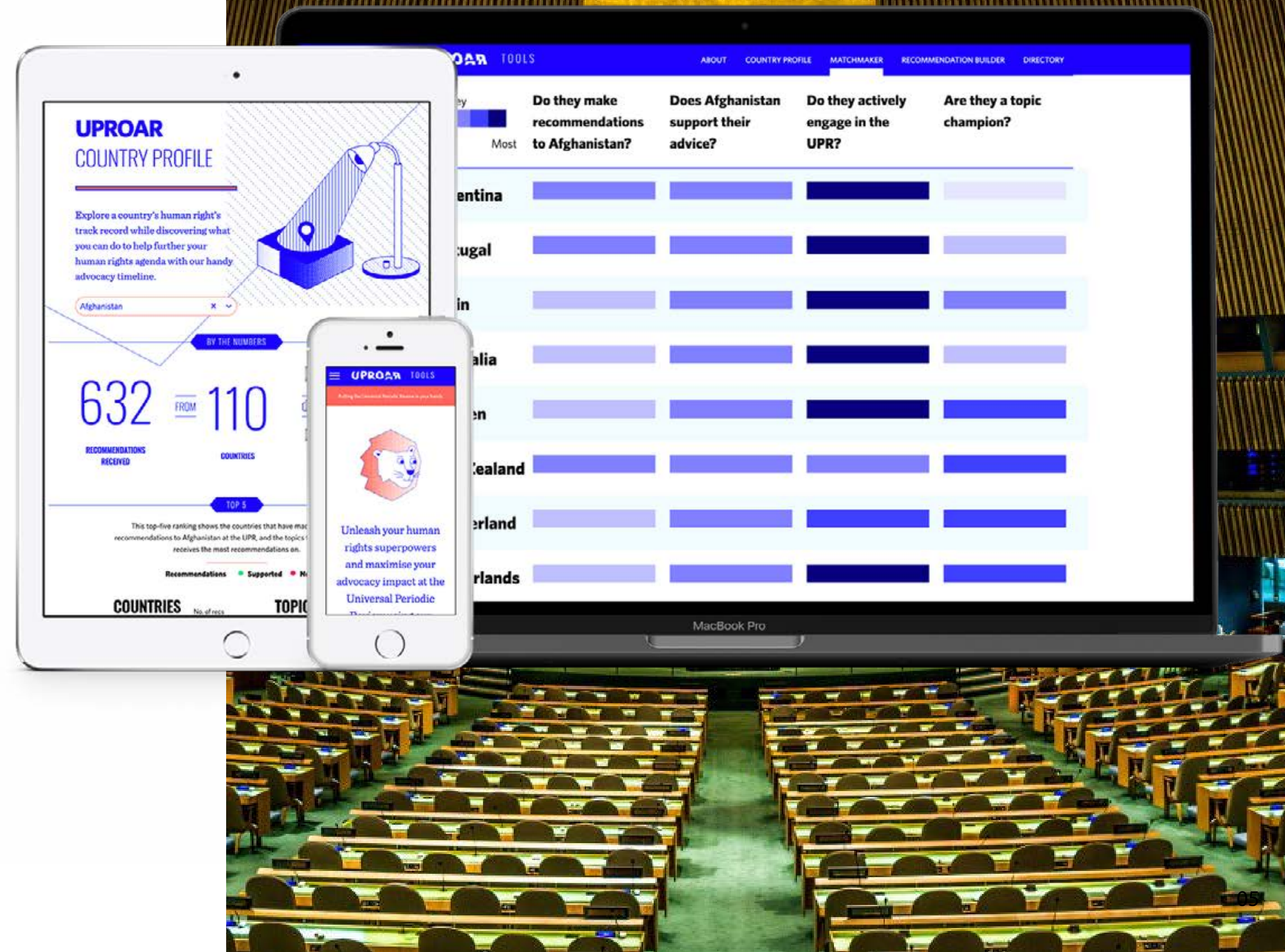
A digital tool to help civil society advocate and lobby for digital rights at the United Nations.

## Role

Full-stack developer building up the Django backend, Selenium scrapers and React apps for front-end.

## Key challenges

- Designing ranking algorithm for the best recommendations.
- Requirements gathering, prototyping and user-testing.
- Scraping, parsing and cleaning data from an obsolete website.
- Implementing performant full-text search over 1000s of documents.
- Ensuring complex functionality accessible even on mobile.





Selected work

# Engaged and Outraged

 [outraged.me](https://outraged.me)

 Interactive installation

 Django, Python, Postgres, WebSockets, React, d3.js, Chrome browser extension

An exhibition installation with AI playing the main character.

## Role

Concept creation, leading the cross-disciplinary team and full-stack developer building up the Django backend communicating with React frontend and custom Chrome extensions via web sockets.

## Key challenges

- Navigating Youtube page and controlling video playback via chrome extension.
- Designing backend system for snapshot collection and scheduled training.
- Real time communication between an Ipad, several laptops and main visualisation at the exhibition.
- Real time visualisation and analysis of the viewed videos.
- Data analysis of the collected results.






Selected work

# Forest Scope

 [forestsco.pe.info](https://forestsco.pe.info)

 Scrolly-telling microsite

 React, Redux, d3.js, SVG, WebGL

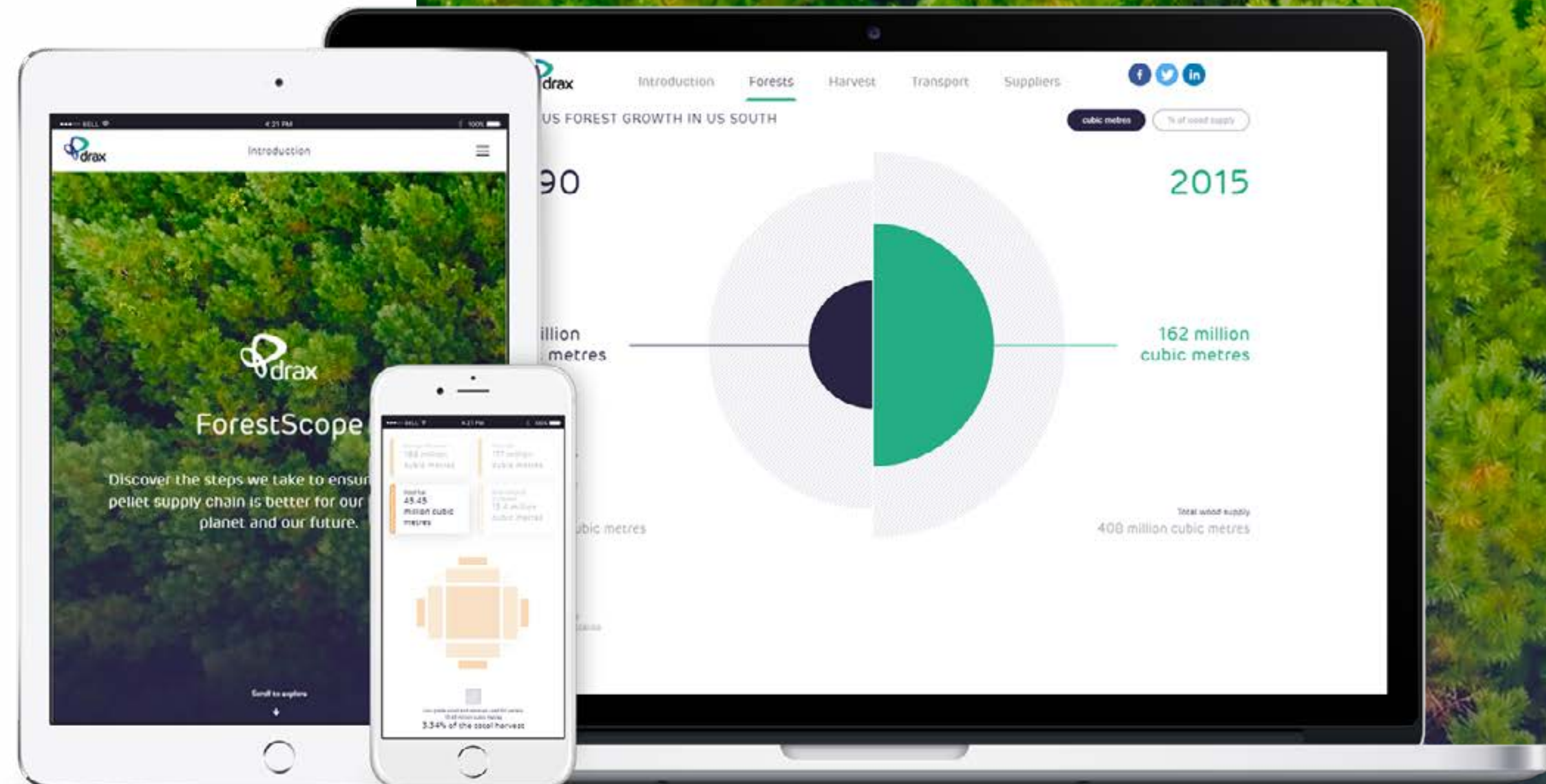
An infographic journey of a wood pallet from Louisiana to Yorkshire.

## Role

Lead developer building a responsive website with many bespoke visualisation.

## Key challenges

- Coordinating development on the entire team.
- Developing WebGL visualisation with 1000s of data points.
- Developing a large number of bespoke SVG visualisations.
- Controlling state of the visualisations on scroll.
- Ensuring the functionality of the SVG and WebGL visualisation on all target devices.





Selected work

# Electric Insights

 [electricinsights.co.uk](https://electricinsights.co.uk)

 Data-driven dashboard

 React, Redux, d3.js, Mocha, Chai, Express, Node.js, MongoDB

An interactive dashboard displaying the latest breakdown of electricity production in the UK.

## Role

Lead developer for the front-end build and maintenance and improvement of the backend.

## Key challenges

- Maintenance and future-proofing of data-collection scrapers.
- Planning and design of a flexible API together with the backend developer.
- Integration with a headless CMS.
- Transitions and charts animation.
- Complex calculations on the front-end.





Selected work

# Our World in Data

[ourworldindata.org/owid-grapher](https://ourworldindata.org/owid-grapher)

Chart-building tool

Backbone, d3.js, SVG, PHP, Mysql

Open-source tool to store tool to store and visualize data.

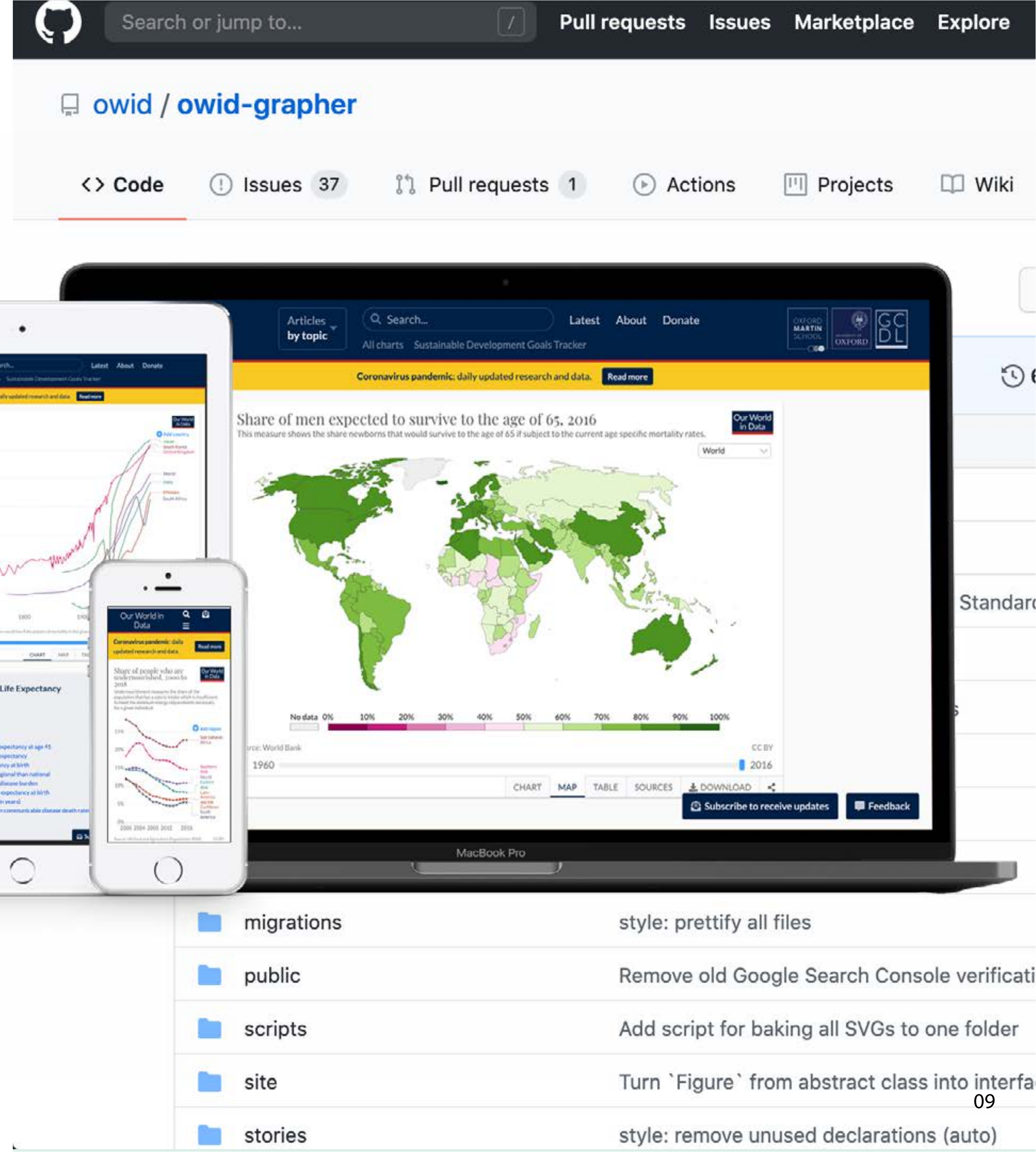
## Role

Lead developer on developing initial versions of the chart-building tool.

## Key challenges

- Requirements gathering and defining a roadmap for the product.
- Design and implementation of a flexible frontend chart component.
- Design and implementation of the user-friendly editor for creating charts.
- Import and validation of tabular data from spreadsheets.
- The architecture of the entire system.

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migrations	style: prettify all files
public	Remove old Google Search Console verificati
scripts	Add script for baking all SVGs to one folder
site	Turn 'Figure' from abstract class into interfa
stories	style: remove unused declarations (auto)