

# RYAN CRANFILL

Chicago, Illinois | ryanc.lol | hi@ryanc.lol

Data scientist, creative coder, and designer with 9 years of experience doing analysis, building and deploying models, and writing software in consulting and startup contexts. Over 30 successfully completed projects with IDEO, Datascope, and other organizations since 2017 with clients ranging from Fortune 10 members to startups, across domains such as mobility, healthcare, and education.

## WORK EXPERIENCE

### IDEO

Senior Data Scientist / Designer | Jan, 2020 - Current

As a data scientist at IDEO, I use human-centered design to tackle gnarly challenges in all sorts of industries. I create data-powered software, products, and services that are rooted in an in-depth understanding of the problems facing the humans who interact with these systems.

Project highlights include:

- A redesign of the gate and boarding experience for a major airline that culminated in live testing of a novel boarding process on 12 international and domestic flights serving 2500+ passengers in 2 airports. Built out a front and backend system using Python and Vue in 2 weeks that enabled testing by handling passenger data from the airline, assigning new boarding groups, and controlling the boarding process.
- Created StyleGAN MTV, which generates music videos by feeding audio spectrograms as input into a StyleGAN generator. The Python backend uses TensorFlow and librosa for image generation, with a Flask backend / Vue.js frontend to create a real-time interactive experience where users can play sound from arbitrary sources and see live generated video.

### IDEO

Data Scientist / Designer | Oct, 2017 - Jan, 2020

In fall 2017, Datascope was acquired, giving birth to a brand new discipline at IDEO: data science. I helped to define how data science would integrate with IDEO's creative process and demonstrated to teammates the value of building and making with data in design projects.

Project highlights include:

- Evaluated the feasibility of predicting restaurant sales, laying the foundation for a future product. In the first two weeks I did the engineering to create a robust end-to-end data pipeline including ingestion, cleaning/normalization, feature engineering, and model training and evaluation. This set up the rest of the project for success as we experimented with different features and model parameters to determine how feasible prediction was, and what the implications for user experience might be. The project inspired the client to continue to develop the concept with IDEO as a startup that went to market in fall 2020.
- Built the backend for the Belief Checkout, a provocative exhibit part of the Hyperhuman gallery at Munich Creative Business Week 2018 exploring how humans might trust algorithms to make decisions that align with their values. Users "shopped" using physical cartons representing different values such as sustainability or healthiness, then received a receipt of groceries the algorithm purchased for them. Hyperhuman was the recipient of the 2019 Core77 Design Award for Speculative Design.
- Ensured sessions at Scialog conferences are composed in a diverse way through administering custom-built network surveys, running a simulated annealing optimization algorithm based on survey results, and analyzing optimization outputs. Parallelized execution of optimizer using serverless computation with AWS Lambda, leading to more than 800x time reduction (from 2.8 days to 5 minutes).

## DATASCOPE ANALYTICS

Data Scientist | Feb, 2017 - Oct, 2017

Datascoppe was a data science consulting company with heavy design thinking influences. We helped our clients understand and investigate possibilities for data they had or could collect by doing exploratory data analysis, making prototypes, or coding production-ready software that delivered real business and human value.

Project highlights include:

- Created an end-to-end modeling pipeline for a major paint company exploring paint color matching. Used historical paint formula data to predict the color spectrum of a given recipe. An optimizer used this model to find a starting point formula for humans to refine, saving both time and expensive raw materials. Coded in Python using scikit-learn and pandas.
- Created a transportation mode inference model for a mobility startup. With GPS time series data, created map visualizations using GeoPandas and Folium to understand commutes and get ideas for features useful to predict how someone is commuting. Trained and evaluated different mode inference models with scikit-learn, and productionized the mode inference model pipeline using Celery.

## GETUSPPE

Data Engineering Volunteer | May, 2020 - Dec, 2020

I helped the GetUsPPE analytics team make their data more widely usable and internally, and more visible and share-able externally.

- Used Stitch Data to set up an automatically-updating analytics datastore.
- Created prototype dashboard interface to understand internal and external visualization needs using Redash and BigQuery.
- Wrote auto-updating data snapshot code to dump preprocessed data for production dashboards using AWS Lambda.

## SKILLS / TOOLS

Python	Javascript	HTML	pandas	scikit-learn	TensorFlow	PyTorch	
Matplotlib	seaborn	D3.js	Plotly	Flask	Django	Socket.IO	Vue.js
React	AWS Lambda	AWS EC2	Firebase	PostgreSQL	MongoDB	Elasticsearch	
Unity	Git	Linux	Cloud Infrastructure				

## EDUCATION

### COLUMBIA COLLEGE CHICAGO

Bachelor of Science, Acoustics | 2008 - 2012