

I build products based on algorithms, powered by data. I bring advanced techniques from data science together with mission-driven experts in order to build next generation products in novel domains.

For a full portfolio, please see [mikedewar.github.io](https://mikedewar.github.io).

## Education

*The University of Sheffield, UK:* PhD Thesis: ‘**A Framework for Modelling Dynamic Spatiotemporal Systems**’. Awarded June 2007.

*The University of Sheffield, UK:* **1st Class MEng** in Control Systems Engineering. Awarded August 2002.

## Employment

*January 2018 onwards:* **Mastercard, Cyber & Intelligence**, Vice President of Data Science.

- Lead a cross functional team of data scientists, developers, and devops engineers, growing to 35 at its peak.
- Promoted a cloud-native, prototype driven approach to design and development, tightly integrating data science and software engineering into product focused teams.
- Engaged in both strategy focused work and community outreach around API orchestration, Privacy Enhancing Technology, and AI.
- Designed synergy products as part of Mastercard’s inorganic growth activities.
- New technologies: Homomorphic Encryption, Federated Machine Learning.

*May 2016 to January 2018:* **Vocalink**, Director of Data Science.

- Lead a Data Science and Analytics team, innovating in the space of payments data driven products, focusing primarily on business intelligence and economic crime focused products.
- Introduced the Data Science discipline to Vocalink, and lobbied for the modernisation of the technology stack and engineering process.
- Managed the team through the acquisition of Vocalink by Mastercard.
- Technologies: Kafka, Teradata, xgboost

*January 2014 to March 2016 :* **New York Times R&D**, Data Scientist.

- Provided Data Science capability to the R&D Lab as one of five creative technologists.
- Explored the impact of AI and Data Science on the future of the New York Times.
- High client engagement, leading tours through the lab for many different kinds of stakeholders and visitors to the New York Times to discuss the future of news.
- Technologies: Kubernetes, GCP, word2vec, openCV, ELK

*May 2011 to December 2013 :* **bitly Inc.**, Senior Data Scientist.

- Used bit.ly data to explore new product opportunities
- Demonstrated the early “data science hypothesis” that data collected as a by-product could be highly valuable both internally and externally
- Technologies: Docker, Golang, Python, Javascript, Redis, AWS, d3.js, scikit-learn, pandas, git

*January 2010 to April 2011:* **Columbia University**, Postdoctoral Researcher, Department of Applied Physics and Applied Mathematics.

*July 2008 to December 2009 :* **University of Edinburgh**, Postdoctoral Researcher, Adaptive and Neural Computation, School of Informatics.

May 2007 to June 2008 : **University of Sheffield**, Postdoctoral Researcher, Department of Automatic Control & Systems Engineering and the Department of Computer Science.

### Selected Projects - Mastercard

**Consumer Fraud Risk** Financial Crime Solutions, **Mastercard** - provides a pre-payment API to detect scams on bank to bank payments. My team and I developed, built, deployed and operated the application layer of this service. It is used by major UK banks, with TSB estimating the service will save the UK economy £100MM per year.

- Consumer Anti-Fraud Solution of the Year - Payments Awards 2023
- Best Security or Anti-Fraud Development - The Card and Payments Awards 2024

**Trace Financial Crime** Financial Crime Solutions, **Mastercard** - detects money laundering over instant payments networks. This service is used by the 13 largest banks in the UK, covering well over 90% of the UK faster payments participants. My team and I executed the technical design, build, deployment, and subsequent operation of this service.

- Rising Star Award - Deloitte Market Gravity Awards 2018

**Corporate Fraud Insights** Vocalink Analytics, **Mastercard** - detects fraud in the Bacs payment network in the UK. Working with RBS, this service prevented over £7MM of losses to RBS's customers in less than two years. My team and I built the behavioural modelling, scoring mechanism and application layer to deliver this service.

- Banking Security Innovation of the Year - Retail Banker International Awards 2018
- Analytics Project of the Year - National Technology Awards 2018
- Best Security or Anti-Fraud Development - The UK Card & Payments Award 2019

### Selected Projects - New York Times

**streamtools** R&D, **New York Times**. A graphical toolkit for working with live streams of data.

**editor** R&D, **New York Times**. A prototype text editor that uses a recurrent neural network and word level embeddings to perform semi-automated tagging of sub-sentence blocks of text

**lazarus** R&D, **New York Times**. An application of machine vision techniques to associate a photo from the physical archive with its digital counterpart in the NYT's digital archive.

### Community Engagement

**AI Public Private Forum** 2020-2021. I attended the AI Public Private Forum, run by the Financial Conduct Authority and the Bank of England.

**NYT R&D Data Meeting** 2013-2016. I ran a weekly, internal cross-departmental meeting at the NYT designed to explore the use of data, in all its forms, inside the NYT.

**Data Gotham** 2012-2013. I was a co-organizer of Data Gotham - a two day event celebrating Data Science in New York.

Recorded Talks:

- **Streamtools** 2015. A talk I gave at code Neuro, about streamtools.
- **The Data Perspective** 2015. A talk I gave at the NYC R Conference, about values
- **Seeing From Above** 2013. A talk I gave in Malmo, Sweden, about data science.

Author of **Getting Started with D3**, Dewar M.A., O'Reilly, 2012.

Full list of academic publications available at [mikedewar.github.io](https://mikedewar.github.io).