

## Contact

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## Top Skills

Machine Learning

Python

Big Data

## Languages

German (Professional Working)

English (Native or Bilingual)

## Publications

On the Enumeration of a Class of  
Non-Graceful Graphs

The Challenges and Frontiers of  
Data Science in Europe (video)

Three Reasons Corporations Fail at  
Big Data

# Adam Drake

Chief Data Scientist/Officer. ML/AI practitioner. Leader; follower.

Teacher; learner. 顧問

Washington, District Of Columbia

## Summary

Senior executive with an exemplary record in the design, development and delivery of cost-effective, high-performance technology teams and systems.

Strong research and data science background with experience in building and leading teams to produce groundbreaking data products.

History of conceiving and implementing unique strategies to optimize business operations, elevate productivity, and boost revenue.

Deliver solutions as a change agent, visionary, and forward thinker capable of critically evaluating and responding to diverse issues.

Thrive in a fast-paced environment of continuous challenges. Proactive leader, coach, and mentor with team-based management style.

Specialties:

Technologies/Tools:

Python/numpy/sklearn/pandas, Go, Haskell, Ruby, C/C++, R, MATLAB, Maple, Mathematica, Perl, Java, TCL, PHP, Bash, SQL, MongoDB, Redis, PostgreSQL, Kafka, ZeroMQ

Research Interests:

High-frequency data analysis, sales and demand forecasting, route planning and optimization, logistics problems, automated anomaly and fraud detection in insurance and ecommerce applications, recommendation engines, low-latency online learning systems, real-time bidding, programmatic buying.

## Experience

### White House Presidential Innovation Fellows

#### White House Presidential Innovation Fellow

January 2019 - Present

Washington D.C. Metro Area

The Presidential Innovation Fellows program is a competitive fellowship program that pairs top innovators from the private sector, non-profits, and academia with top innovators in government to collaborate on solutions that aim to deliver significant results in months, not years. It was established in 2012 and has operated continuously since then. The highly competitive program features an acceptance rate in the single digits.

As a Fellow, I am currently working with the United States Marine Corps in order to assist USMC and the broader Department of Defense community in speeding up technology development and fielding, including applications for applied AI/ML. The work is a combination of strategy advising, organizational change leadership, and deep technical analysis.

### Ocean Protocol

#### Advisor

2017 - Present

Ocean Protocol is an ecosystem for sharing data and services. It provides a tokenized service layer that exposes data, storage, compute and algorithms for consumption with a set of deterministic proofs on availability and integrity that serve as verifiable service agreements. There is staking on services to signal quality, reputation and ward against Sybil Attacks.

Ocean Protocol helps to unlock data, particularly for AI. It is designed for scale and uses blockchain technology that allows data to be shared and sold in a safe, secure and transparent manner.

### IEEE

#### IEEE Senior Member

2018 - Present

The Institute of Electrical and Electronics Engineers (IEEE) is the world's largest technical professional organization for the advancement of technology.

Fewer than 10% of the over 400,000 IEEE members in more than 160 countries have achieved Senior grade.

Atazzo  
CEO / Chief Data Officer  
2015 - Present  
Singapore

Atazzo is one of the premier technical leadership and data consulting companies, serving clients predominantly in Southeast Asia. We provide expert guidance on topics of organizational structure and change management, developing and accelerating technical teams, data processing systems and infrastructure, and build-up of data and leadership capabilities in organizations.

Three of our clients in Southeast Asia have gone on to achieve \$1 billion USD valuations, with industries spanning logistics, e-commerce, fintech, and more.

Common results for our clients:

- 10x-12x increase in tech and product team output
- 80% reduction in tech OPEX

No increase in tech headcount required.

We are disciplined. We are effective.

SMU - Singapore Management University  
Adjunct Faculty  
2016 - 2018 (3 years)  
Singapore

As an adjunct faculty member, provide guidance on the development of educational initiatives, especially for the graduate programs in analytics.

Responsibilities mostly involved the development and delivery of the draft curriculum for an advanced graduate course in machine learning techniques, Big Data: Tools and Techniques

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Big Data has become a key consideration when organizations today develop strategic outlook of the consumer and market trends. Big Data sets have become an enabler to organizations in developing strategies and plans to develop compelling product and services and differentiated customer experiences at low cost by optimizing operations and processes.

Business analytics today increasingly leverages not just the traditional structured data sets to answer business questions, but also the newer forms of Big Data that can help answer new questions or even answer old questions in newer ways. Big Data is helping provide richer and newer insights into questions analytics has been answering by modeling for a richer customer and operations scenario.

As such, it is incumbent on practitioners of advance analytics to be intimately familiar with technologies that help store, manage and analyze these Big Data streams (sensor data, text data, image data etc.) in an integrated way along with more traditional data sets (e.g. CRM, ERP etc.)

This course is intended to equip students with an appreciation and a working knowledge of Big Data technologies that are prevalent in the market today along with how and when to use Big Data technologies for specific scenarios. This course will provide a foundation to the Hadoop framework (HDFS, MapReduce) along with Hadoop ecosystem components (Pig, Hive, Spark and Kafka). The course will also cover key Big Data architectures.

Skyscanner (acquired by Ctrip)  
Chief Data Officer  
2015 - 2016 (2 years)

Skyscanner is a leading global travel search site, providing instant online comparisons for millions of flights on over a thousand airlines, as well as car hire and hotels.

Skyscanner's flexible search options mean you can browse prices across a whole month, or even a year, allowing you to get the best deals. You always book direct with the airline or travel agent, so you get the lowest price, with no extra fees added.

We've been in the travel business for 10 years, and we employ more than 30 different nationalities from our global offices in the UK, Singapore, Beijing, Shenzhen, Miami and Barcelona. We have over 60 million visitors every month who use us to find flights in more than 30 different languages - we hope we can help you find yours too!

zanox  
Chief Data Scientist and Director of Engineering

2013 - 2015 (3 years)

Berlin Area, Germany

As Chief Data Scientist:

- \* Responsible for creating and improving the entire data pipeline, from collection, to storage, to analysis tools and methods, and finally into data products.
- \* Built an expert team of Data Scientists with diverse nationalities, educational backgrounds, and skill sets.
- \* Worked with the Data Science team to bring more data-driven thinking and decision making throughout the organization, across all departments and hierarchies.
- \* Developed new and innovative event-driven architectures to allow for high-speed and soft-real-time processing of massive data volumes, thus allowing teams to incorporate data components into their products independently. This results in faster product development and time to market, better data access for Data Science and other teams, and ultimately better customer experience.
- \* Pioneered data stewardship efforts across the company and subsidiaries, and joined together and standardized disparate data sets to unlock unrealized value.
- \* Provided strategic perspective, post-merger integration planning, and critical technical insight and due diligence for corporate M&A activities.

As Director of Engineering:

- \* Responsible for overall leadership and vision for systems design, architecture, and tools needed to optimize and enhance current business operations, while simultaneously laying the foundation for future expansion of product lines, revenue streams, and further international growth. This includes designing distributed systems and event-driven architectures to support operations and activities in over 50 countries, as well as new data-driven products and services and cooperation with industry partners.
- \* Responsible for HR topics for the entire engineering group, including performance management, hiring, staff development, etc.

\* Responsible for capex/opex budgeting and forecasting, corporate strategy development, engineering process management, defining quality standards and monitoring programs.

madvertise Mobile Advertising  
VP Research and Chief Data Scientist  
2011 - 2013 (3 years)  
Berlin, Germany

Established and lead a world-class Research and Data Science Department with particular focus in the following areas:

\* Real-time methods for measuring and identifying/fingerprinting unique users and devices to support products with audience clustering and discovery, user segmentation, behavioral targeting, retargeting, and user profiling. Undertook an industry-changing research initiative away from cookie-based approaches and towards mathematically-sound entropy-based methods of measuring the uniqueness of users. Outperformed leading third-party user and device detection/fingerprinting systems by 940% resulting in a savings of many thousands of Euros per month over using a third-party solution.

\* Designed optimized auction systems and machine learning technologies in order to support a Real-Time Bidding (RTB) infrastructure and associated optimizations (seller revenue, Pareto Optimality, predicting click-through rate, etc.). System is designed to support very high frequency (over 100,000 auctions per second) and very low latency (under 30ms) operations.

\* Build up user/audience profiles and deliver highly-accurate audience targeting services in a privacy-friendly way. Extensive machine learning problems related to probabilistic behavioral targeting, automated audience discovery, retargeting, and clustering analysis.

\* Extensive development of fraud detection and prevention systems, including R&D of statistical anomaly detection systems for click fraud detection.

\* Maintain knowledge and standards of the regulatory environment for data privacy and security in US and European markets. Participate in the development of the Mobile Marketing Association's European Union Privacy Committee.

\* Work closely with PR and Marketing/Communications departments in order to deliver expert columns and interviews to various media outlets. Develop internal and external communication materials to help non-technical stakeholders understand highly-technical topics.

Drake Compliance  
Chief Information Officer  
2003 - 2011 (9 years)  
The Woodlands, Texas

\* Reduced back-office overhead by designing and overseeing development of new products to manage compliance functions for investment companies and advisers in the \$5M to \$4.5B range. Features included custom report builders, personal securities transaction tracking, prohibited ticker tracking, advisor/access person trade matching, and trade pre-clearance requests. Also designed functionality for transparency and data exporting in order to improve integration with federal securities regulatory agencies.

\* Designed and managed internal infrastructure including VoIP system, servers, business continuity and disaster recovery infrastructure, and internally-developed document imaging solutions.

\* Designed policies and procedures for mutual funds and investment advisers that satisfied tight regulatory requirements but also maximised the freedom of the executive group.

\* Led the executive team and senior operational staff in periodic mock-audits ensure compliance with written policies and procedures and prepare for examinations by federal regulatory agencies.

\* Gathered and analyzed a variety of data including forensic transaction analysis for high-frequency trading activities and fraud detection. This data was transformed into products and delivered in easily-understandable reports to boards, executive teams, and federal regulatory agencies (Securities and Exchange Commission).

\* Assisted mutual fund companies and investment advisers in developing highly-customized business continuity and disaster recovery strategies which included strict regulatory requirements and oversight.

Citco-Quaker Fund Services

## Director of Information Technology

2001 - 2002 (2 years)

Valley Forge, Pennsylvania

- \* Leadership responsibility for strategic planning, project methodology and budgeting.
- \* Designed web application using Microsoft SQL databases and IIS to deliver real time account data for mutual fund clients. A very progressive product offering at the time.
- \* Pioneered the setup and configuration of custom remote access and system monitoring which significantly reduced operating costs while simultaneously enhancing access by clients and third parties. This system is now in use by many major mutual fund service providers.
- \* Designed network, operating system, and infrastructure standards.
- \* Designed and implemented business continuity and disaster recovery plans.
- \* Led the design, installation, implementation, and testing of network and disaster recovery system.
- \* Enhanced telecommunications technology through customized programming on CotS hardware.
- \* Functioned as IT department liaison on all new business development initiatives, supporting company as it grew from a zero base to over \$750 million in assets under management.

## Self-Employed

IT Consultant

January 1998 - January 2001 (3 years 1 month)

- \* Designed backup strategies and led successful data migration to support the relocation of Anadarko Petroleum from Ft. Worth to Houston, Texas. Developed documentation, data transfer/backup procedures and strategies for relocation. Managed consulting team that handled data migration and relocation processes.
- \* Led process-re-engineering initiatives for an auto parts manufacturing company. Designed an e-commerce website to purchase products on-line.



Introduced bar code and automated shipping technology that significantly reduced operating costs while improving sales volume.

\* Developed and implemented a network infrastructure, security, and backup systems to support a local law firm.

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## Education

University of Houston

Master's Degree, Applied Mathematics

University of Houston-Downtown

Bachelor's Degree, Applied Mathematics