

# JOHN AYER ROBERTS

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## WORK EXPERIENCE

### HAWKFISH, LLC

New York, NY

Senior Data Scientist

January 2020 - Present

- Worked across the tech org as part of the Experiments, Research and Design, Machine Learning Infrastructure, and Media Measurement teams building tools to optimize voter engagement and persuasion for the Mike Bloomberg 2020 campaign and various democratic clients in the lead up to the 2020 presidential election and Georgia senate runoffs.
- **Voter Modeling:** Built and deployed HF's voter registration model incorporating over 1,000 distinct voter features and scoring 257 million eligible voters to identify those most likely to have to register before the election. Scores from the model were used by registration efforts that registered more voters in key swing states than were the margins of victory in those states.
- **Causal Inference:** Developed various tools to establish the impact of digital ad content on voter behavior and opinions both within and outside of randomized controlled trial settings. Led the team to productionize Conditional Average Treatment Effect (CATE) modeling to identify the groups most strongly persuaded by specific ad content.
- **Machine Learning Infrastructure:** Worked directly with the ML Infrastructure team (occasionally as a team member and generally as an alpha tester) on their build out of HF's Kubeflow-based Machine Learning platform that incorporates Katib for parallelized hyperparameter tuning, Argo for scoring, and a custom built framework for model evaluation and interpretation.

### BOXED.COM

New York, NY

Senior Data Scientist

2019 - 2020

Data Scientist

2017 - 2019

- Member of three-person data science team that worked collaboratively with c-level, engineering, marketing, operations, and product departments to define and deliver data products with an outsized impact on the business.
- **Predictive Modeling:** Developed a suite of customer quality models including stochastic (BG/NBD, Gamma-Gamma) and machine learning (XGBoost) lifetime value and churn models for identifying the company's best customers and those at risk of churning.
- **Experimentation:** Reviewed company methods and industry best practices (esp. the work of Ron Kohavi), built out Bayesian hypothesis testing app to provide robust and intuitive experimental results.
- **Data Pipelines:** Transformed event data into user-aggregated feature tables, backfilled historically and updated nightly for use in model building and fast, easy, and reliable querying; checked-in and peer-reviewed as authoritative source of truth.

### OCTOPOD ANALYTICS

Brooklyn, NY

Founder and Lead Data Scientist

2016 - 2017

- Data science consultancy building data products for clients in the real estate, private equity, and venture capital industries.
- Services covered building data pipelines and databases, predictive models and analyses, visualizations and web apps.

### ESSEX MANAGEMENT

New York, NY

Managing Director

2009 - 2016

Vice President

2007 - 2009

- Utility role in venture firm that founds or takes controlling seed positions in cleantech, biotech, and consumer goods technologies. Sat on portfolio company boards and assisted in raising over \$70mm and increasing portfolio valuation by 180%.

## EDUCATION

### BROWN UNIVERSITY

Providence, RI

Master of Science in Applied Mathematics

2005 - 2007

- Courses in functional analysis, probability theory, mathematical statistics, PDE, fluid dynamics, and linear programming. 3.8 GPA

### COLUMBIA UNIVERSITY

New York, NY

Post-baccalaureate in Quantitative Studies for Finance

2003 - 2005

- Courses in probability, statistics, linear algebra, stochastic modeling, comp sci, multivariable calc, analysis, ODE, and PDE. 3.8 GPA

### HARVARD UNIVERSITY

Cambridge, MA

Bachelor of Arts in Psychology

1998 - 2002

- Focus on cognitive neuroscience, social and evolutionary psychology, creative writing. Varsity cross-country and track and field.

## PERSONAL & OTHER ACTIVITIES

### NEW YORK ROAD RUNNERS

New York, NY

Board Member, Chair of Development Committee, Vice Chair of Public Affairs Committee

2015 - Present

### CENTRAL PARK TRACK CLUB - NEW BALANCE

New York, NY

Board Member (Chairman and President, 2008-2017)

2008 - Present

- Increased revenue by 7x. Won 8 USA Track & Field National Championships. Sent 4 athletes to the London Olympics and 3 to Rio.
- Sponsored Athlete
- 2006 - 2012
- 46<sup>th</sup> overall finisher (9<sup>th</sup> American, 1<sup>st</sup> Brooklyn resident) in the 2011 New York City Marathon in 2:29:46 (5:42 per mile pace).