

Joseph Davin

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Technical Skills

Statistical languages: Fluent in R, SAS

Technical languages: Fluent in SQL, HiveQL; Have worked in Perl, Python, shell script, VBA

Computing: Familiar with Unix environments; Have worked with AWS EC2

Experience

Facebook

Menlo Park, CA

Quantitative Researcher, Marketing Science R&D

2015 - present

- Led R&D projects focused on measuring advertising effectiveness on Facebook; coordinated with product and engineering teams from start to product launch
- Managed new CPG (FMCG) measurement capabilities, worked with third party measurement companies on experimental and quasi-experimental setups

Facebook

Menlo Park, CA

PhD Intern, Core Data Science

2014 (3 months)

- Built custom models of customer acquisition, churn, and engagement using regression models for Internet.org
- Queried and visualized data user, network, and activity data using Hive, R & ggplot2
- Explored and consulted on multitouch attribution modeling with Atlas

Barclays

London, UK

Associate, Strategy & Planning

2007 - 2009

- Responsible for strategic planning for global consumer and business banking including industry analysis, market sizing, financial modeling, economic review, and competitor analysis
- Developed and stress-tested business cases for retail banking and consumer finance market entry
- Researched and forecasted global banking revenues used in Board of Directors and investor presentations
- Built and refined activity-based costing and customer profitability models for Barclays Commercial Bank
- Queried data with SQL and built machine learning models in SAS

FICO (Fair Isaac Corporation)

San Rafael, CA

Analytic Scientist

2004 - 2006

- Developed and validated mathematical models for consumer risk, revenue, and loss potentials for top international banks using statistical programming, scenario simulation, expert modeling, decision science, and strategy optimization
 - Optimized customer acquisition campaigns of six million prospect accounts for a top 10 US bank; modeled response, balance transfer, and other customer profitability drivers; led a solo on-site training for technology handoff to the client
 - Delivered training and presented credit risk forecasting and strategy projects to Directors and VPs in risk and credit card strategy divisions in top banks in the US, Canada, Latin America and China
 - Created core training material used to launch a new strategic framework product for one of the world's largest banks in China; delivered on-site training to twenty five analysts
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Management Publications

BBVA Compass Bank: Marketing Resource Allocation

with Sunil Gupta

- Harvard Business School Case Study
- Topics: Search and display ads, ad attribution, dynamics, consumer banking, marketing effectiveness

Customer Management

Research writer for Sunil Gupta

- Harvard Business School Publishing Core Curriculum Reading
- Topics: Customer lifetime value, customer acquisition, customer retention, cross-sell and up-sell

Digital Marketing

with Sunil Gupta

- Harvard Business School Publishing Core Curriculum Reading
 - Topics: Search and display ads, inbound marketing, social media, big data, personalization and privacy
 - <https://cb.hbsp.harvard.edu/cbmp/product/8224-HTM-ENG>
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Academic projects

Peer Influence in Mobile App Adoption

with Sunil Gupta, Mikolaj J. Piskorski

- Built a hierarchical Bayesian regression model to estimate app adoption in a social network controlling for homophile bias with latent space
- Findings: Peers influence about one quarter of mobile app adoption in a social network; latent space is able to reduce bias in estimates of social influence
- Status: Invited to resubmit to *Marketing Science*

Rising Retention Rates: Duration Dependence or Heterogeneity?

with Peter S. Fader, Bruce G.S. Hardie, Yuzhou Liu, Thomas J. Steenburgh

- Built Bayesian dynamic generalized linear models of customer retention; introduced the Beta discrete Weibull model for customer churn; optimized customer equity with respect to acquisition and retention spend for customer portfolios with different levels of underlying churn behavior
- Findings: Customer tend to have *increasing* probability to churn over time; rising retention rates are due to heterogeneity sorting; models that ignore customer heterogeneity over invest in retention efforts and results in 5% loss in customer equity
- Presented at Direct/ Interactive Marketing Research Summit 2011, London Business School Trans-Atlantic Doctoral Conference, Marketing Science Conference 2012
- Status: Manuscript in preparation

Zero Rating of Digital Media on Mobile Networks: Spillover effects of promotional pricing to paid activities, post-promotion period, and peers

with Eytan Bakshy, Sunil Gupta, Edoardo M. Airoidi

- Investigating a large scale ($N = 2e7$) econometric and natural experiment to understand social influences in short and long-term drivers of customer engagement
 - Status: Currently conducting data analysis
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Education

Harvard Business School

Boston, MA

D.B.A. Marketing

2009 - 2015

- Dissertation: *Essays in social networks and social influence*
- Selected coursework: Microeconomics, Econometrics, Industrial Organization, Probability Theory, Bayesian Statistics, Data Science, Consumer Behavior, Quantitative Marketing Models, Time Series
- HBS Doctoral Program Dissertation Completion Grant, 2014
- Chair of HBS Doctoral Mentorship Program, 2012; Doctoral Fellow, INFORMS Marketing Science Conference, 2012; Doctoral Fellow, Yale Marketing-IO Conference, 2011; Fellow, Duke Quantitative Marketing and Structural Econometrics Workshop, 2010

Imperial College Business School

London, UK

M.B.A.

2006 - 2007

- Imperial College MBA Bursary Award, 2006
- Imperial College Business Plan Competition, 2nd Prize, 2007

University of California, Berkeley

Berkeley, CA

M.A. Biostatistics

2002 - 2004

- Departmental Block Grant Award, 2003
- Reader and teaching assistant to introductory probability theory and statistics, and time series courses

University of California, Berkeley

Berkeley, CA

B.A. Statistics

1998 - 2001