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SUMMARY

Ph.D. Data Science leader and Statistician. Expertise in building technology products at scale using machine learning, optimization and statistics. Experience mentoring and growing data science teams. Comfortable working in cross-functional teams on complex, high-impact projects. Passionate about data-driven business strategy and data science education.

WORK EXPERIENCE

Uber Technologies, Inc., New York, New York — January 2018 - Present
Senior Data Scientist

Tech lead focusing on delivery marketplace (Uber Eats, Direct) real-time order fulfillment. Delivered multiple features with experimentally-demonstrated cost reduction of tens of millions (USD) per year and multi-million increase in gross bookings. Mentored 5+ junior data scientists and interns; participated in 70+ interview panels and helped scale team from 2 to 12 data scientists and analysts. Sample projects:

- Developed core matching technology, including: model implementation (large-scale, real-time solver for an assignment problem), support and expansion of batching (multi-order pickups), designing a matching framework for a new business model ("set your own price")
- Implemented hyperparameter tuning framework based on simulation and Bayesian optimization
- Built highly scalable (100,000+ QPS) machine learning-based API for routing and timeliness predictions
- Developed new metrics and models for measuring marketplace health used for real-time monitoring and surge pricing
- Measured business impact of new features using experiments (A/B test, switchback) and causal inference
- Implemented models using R, Python and internal tools (Michelangelo, Piper)

Haverford College, Haverford, PA — July 2020 - Present
Visiting Assistant Professor

Teaching undergraduate introductory statistics and advanced statistics elective for 2020-2021 school year. Designed curriculum for a course on time series analysis.

x.ai, New York, New York — June 2016 - December 2017
Senior Data Scientist

Tech lead building a fully automated conversational artificial intelligence for meeting scheduling.

- Served as applied data science practice lead. Coordinated research and guidance around strategies for solving natural language understanding problems using machine learning, design and analysis of marketing experiments, product A/B testing, and user surveys.
- Served as principal R&D lead for natural language understanding tasks relating to meeting participant statuses and relationships. Designed automation tasks and oversaw data collection

guidelines and quality. Prototyped machine learning models for intent classification, entity/intent and relationship linking tasks.
- Developed software with Scala, analytics and machine learning with Python (Keras).

Epsilon (formerly Conversant), Chicago, IL May 2015 - June 2016
Decision Scientist

Research & development of a large-scale, distributed machine learning engine for personalized marketing.

- Designed and implemented a machine learning model for predicting marketing event sequences in Spark
- Contribute to building software infrastructure for new data-driven products
- Designed and implemented new features and module for automated feature selection
- Projects resulted in incremental performance improvements of ~30-80%
- Use big data tools and languages (Spark, Scala, R, Hadoop, Hive/SQL), custom-built supervised and unsupervised learning algorithms

NOAA (Department of Commerce), La Jolla, CA 2009 - 2010
Economist (Contract)

- Conducted economic analysis of resource impact in support of international license negotiations.
- Built and analyzed statistical models, produced visualizations of complex spatial data.
- Presented research at national and international research conferences and government policy meetings.

EDUCATION

University of Chicago, Chicago, IL
Doctor of Philosophy, Department of Statistics 2010 - 2015

- Basic research in statistical machine learning. Graphical models, large-scale optimization, nonparametric statistics. Developing new theory, methods and software (R, basic C++)
- Thesis: Exponential Series Approaches to Nonparametric Graphical Models (Advisor: John Lafferty)
- Led teams of graduate students in statistical consulting projects servicing the academic community.

Bachelor of Arts, Mathematics and Economics 2005-2009

General and departmental honors (Economics)