

Diana Pfeil

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- Education**
- Massachusetts Institute of Technology** September 2006–June 2011
Ph.D. in Operations Research Advisor: Prof. Hamsa Balakrishnan
Thesis: Optimization of terminal-area air traffic operations under uncertain weather conditions
- University of California at Berkeley** September 2000–May 2004
B.A. in Computer Science with Honors
B.A. in Mathematics
- Experience**
- Lumo** Boulder, CO
CTO June 2015–present
- Prototyped, built, and architected (along with other team members) Lumo’s machine learning engine to predict flight delay risk as well as cause of delay.
 - Hired, manage and lead a small team of full time and contract engineers.
 - Involved in all technical aspects of engineering: lead all core infrastructure and security decisions, tech stack decisions, and perform IC work.
- University of Colorado at Denver** Denver, CO
Adjunct Professor Spring 2016
- Taught a Big Data Practicum course to masters students in the business school. Focused on real-world machine learning techniques and a course-long project.
 - Developed syllabus for this first-time course, including lecture topics and content. Designed the practicum project, which was based on a Kaggle Competition.
- OptTek Systems** Boulder, CO
Senior Optimization Analyst July 2012–June 2015
- Involved in projects spanning R&D, prototyping, and implementation of solutions in predictive analytics and machine learning, simulation optimization, and pure optimization. From developing models to predict customer churn for a large SAAS provider, to improvements to the core algorithms in OptTek’s simulation optimization engine.
- Massachusetts Institute of Technology** Cambridge, MA
Research Assistant in the International Center for Air Transportation June 2007–June 2011
- Developed mathematical models to improve aircraft flow and airspace capacity by integrating air traffic flow management methods with state-of-the-art aviation weather forecasts. This work included the development of a novel predictive model of air traffic route availability based on hundreds of GBs of aviation weather data.
 - First place poster at MIT Transportation Showcase, Feb. 2011
- Analytics Operations Engineering** Boston, MA
Summer Analyst Summer 2008
- Evaluated the inventory management system of a major industrial goods company, recommending policy changes to increase profit with minimal changes to inventory levels. Analyzed and mined raw data from a large warehouse.
 - Developed forecasting approaches to improve prediction of product end-of-life for a major luxury retailer.
- Amazon.com** Seattle, WA
Software Development Engineer in the machine learning group January 2005–July 2006
- Coded, performance tested, documented, and supported a generic BDB data retrieval web service, used by tens of Amazon teams. This service was the precursor to Amazon’s cloud NoSQL stores SimpleDB, and DynamoDB.
 - Worked on Behavior Based Search, a system which mined over 100 GB of customer behavior data to suggest highly relevant search results.
 - Worked on the Digital Discovery team on the research and development of new features based on hundreds of thousands of books’ worth of Search Inside the Book (SITB) text.

DIMACS Student Researcher in REU program
Piscataway, NJ Summer 2004
· Worked with Professor Paul Kantor on automated email authorship identification. Wrote Perl scripts to extract features of text and determine authorship through various statistical methods.

Community **Boulder Women in Machine Learning and Data Science** Boulder, CO
co-organizer March 2016-present
· Co-founder and Co-organizer of this almost-monthly meetup focused on developing a strong community of women in data science. Events include technical workshops, lightning talk nights, and happy hours.

Boulder Startup Week Boulder, CO
co-organizer May 2018
· Co-organized the data science track for Boulder Startup Week. Curated and organized 5 events in the week, with 50-100 attendees each.

Analyze Boulder Boulder, CO
co-organizer May 2013-May 2016
· Co-organized a monthly data meetup with 100-150 regular attendees. This involved curating speakers, reviewing presentations, and coaching speakers.

Selected Publications **Identification of Robust Terminal-Area Routes in Convective Weather**
with H. Balakrishnan. Transportation Science, February 2012.
Dynamic Reconfiguration of Terminal Airspace during Convective Weather
with H. Balakrishnan. IEEE Conference on Decision and Control, December 2010.

Technical Skills · Languages: Python, R, Perl, JavaScript, Java, C, MATLAB, unix utilities, etc
· Optimization: CPLEX, APML, OPL Studio
· Emacs, git, agile development and TDD

Teaching and Presentations **Auto-generating VC wisdom using recurrent neural networks**, May 2017
Presentation at Analyze Boulder

Big Data for Machine Learning: How things have changed over the last decade,
November 2016
Presentation at Rocky Mountain Data Con

Big Data for Machine Learning: How things have changed over the last decade,
November 2016
Presentation at Boulder Women in Machine Learning and Data Science

Startup CTO Podcast, May 2016
One of the first guests on the Startup CTO podcast. Discussed CTOing, data science, academia, and building community.

Introduction to Data Science, March 2015
Workshop at Girl Develop It Boulder meetup

Using OptQuest with AnyLogic for Simulation Optimization, December 2014
Presentation at AnyLogic User Conference

Machine Learning Methods for Insightful Simulation Optimization, December 2014
Presentation at INFORMS Conference

Data Visualization: The Basics, August 2013
Presentation at Analyze Boulder meetup

Using Weather Data to Predict Flight Route Blockage During Thunderstorms, June 2013

Presentation at Analyze Boulder meetup

Air Travel: There is (Sometimes) a Method Behind the Madness, May 2012

Presentation at Ignite Boulder, audience of 800+ at Boulder Theater

Teaching Assistant for “Statistical Thinking and Data Analysis”, Fall 2010

Lead weekly recitation sessions and office hours for this MIT undergraduate course in the business school. Received positive reviews from students.