

# Peter B. Lubell-Doughtie

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## CONTACT INFORMATION

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*SRC:* github.com/pld

## EDUCATION

**University of Amsterdam**, Amsterdam, Netherlands

MSc, Artificial Intelligence, Cum Laude, 2011

Track: Learning Systems, Thesis: *Learning to Rank from Relevance Feedback*

**Stanford University**, Stanford, California USA

BS, Symbolic Systems, 2006

Concentration: Decision Making and Rationality

## PROFESSIONAL SUMMARY

18+ years of technical experience leading fast-paced initiatives, managing high-growth teams, and delivering AI integrations. Deep programming and design knowledge in e.g. Java, Python, and Clojure. Led a team of 40 engineers in platform building and implementing ML AI solutions. Delivered 40mm in revenue at Ona with 4 years of 40% annual growth.

## PROFESSIONAL EXPERIENCE

**Ona**, New York, New York USA

*Co-Founder and CTO*

**November 2013 - Present**

- Hands-on leadership in technology strategy, innovation, recruitment, leveling, and mentorship to grow our team to 75 and high-performing engineering org to 40.
- Led system design and product development, implementing best practices to create data and health platforms, storing over 500,000 patients' secure data within 12 months.
- Integrated ML AI solutions, including unsupervised health risk scoring, computer vision for medical test results, generative AI transcription, and medical history summarization.
- Led collaboration and communication in partnership with key stakeholders, defined accountable business goals, negotiated contracts, and led financial management.
- Programmed in Clojure, ClojureScript, CQL, FHIR, Java, Kotlin, Python. Scalable system architecture and API design. Tracked errors, quality assurance metrics.

**Mira Financial**, New York, New York USA

*Advisor*

**January 2018 - April 2019**

- Advised internal team on data engineering, AI, scalability, and health systems needs. Communicated technical design to external partners.
- Interviewed candidates, mentored the technical team, collaborated on system design.

**Intent Media**, New York, New York USA

*Lead Data Engineer*

**November, 2012 - November 2013**

- Led the data engineering team in building a data platform for ETL, analysis, and ML at scale. Managing prioritization between model and pipeline building.
- Communicated the data team's roles, needs, and accomplishments to the executive team and the company.
- Researched and published a novel distributed logistic regression implementation based on BFGS.
- Programmed ML models, data pipelines, and platform integrations in Clojure, Cascalog, Java, Pig, and Ruby.

**Columbia University, Modi Research Group**, New York, New York USA

*Senior Software Engineer*

**December, 2011 - October 2013**

- Built semi-automated data analysis and management tools for energy infrastructure and development planning in Python and R.
- Developed web applications and web services in Python using Django for mobile data collection and management.

- Project managed remote teams and coordinated with corporate, non-profit, and government project partners.

**Princeton University**, Princeton, New Jersey USA

*Machine Learning Researcher*    **October, 2008 - July 2009; October, 2011 - April, 2012**

- Collaborated with Nadia Heninger and other computer science graduate students to create an online sociology laboratory.
- Developed a REST and XML based web service, as well as Ruby on Rails and JavaScript web applications and plugins.
- Data science and data analysis using Ruby, Python, and R. Wrote algorithms for data processing in Ruby and C.
- Researched and implemented pair-wise algorithms for processing large amounts of vote data to determine user preferences.

**Helioid**, New York, New York USA

*Co-Founder*    **April, 2008 - December 2011**

- Developed and integrated continuous AI learning algorithms in Ruby and C, as well as web applications and APIs in Ruby on Rails.
- Researched, published papers, spoke at conferences, and implemented technologies in information retrieval, text analysis, statistics, and machine learning.

**Mobile Input Devices and Systems**, Alameda, California USA

*Managing Engineer*    **April, 2008 - June, 2009**

- Managed software development of chorded typing glove and typing pad, written in C and Assembly.
- Implemented and maintained web services in Ruby on Rails and JavaScript.

**Self Employed**, New York, New York USA

*Consultant*    **December, 2007 - March, 2008**

- Maintained web applications in Ruby on Rails and advised on requirements for secure web applications.
- Developed and implemented websites and content management systems in PHP, Ruby, and SQL.

**Netsprout**, San Francisco, California USA

*Lead Developer*    **June, 2006 - November, 2007**

- Programmed web applications, APIs, and RSS feeds in Ruby on Rails, AJAX, Actionscript, PHP, and JSP; desktop application in Java for organ transplant matching.
- Site reliability engineering, including load balancing system design, performance testing, database management, static code analysis.
- Developed Ruby on Rails plug-ins, transcoding systems using FFMPEG, XML APIs, RSS feed implementation.

**Stanford University**, Stanford, California USA

*Research Assistant*    **June, 2006 - December, 2006**

- Programming and data science in Ruby and Python to organize academic research into databases, flow charts, and text summaries.

ACADEMIC  
EXPERIENCE

**IEEE Transactions on Neural Networks and Learning Systems**

*Reviewer*    **March, 2014 - December, 2015**  
Reviewed manuscripts for publication.

**Stanford University**, Stanford, California USA

*Undergraduate Research Grant Recipient*    **June, 2004 - September, 2004**  
Developed a genetic programming based algorithm that evolved agent communication systems. Reviewed literature on multi-agent communication and evolutionary computation. Wrote paper de-

tailoring results. Primary advisor Nils Nilsson. Secondary advisor John Koza.

## PUBLICATIONS

Mehl, G. et al. A full-STAC remedy for global digital health transformation: open standards, technologies, architectures, and content, *Oxford Open Digital Health*, 2023

Okanda, D. et al. Low frequency of *Plasmodium falciparum* hrp2/3 deletions from symptomatic infections at a primary healthcare facility in Kilifi, Kenya. *Frontiers in Epidemiology*, 2023

Tamrat, T. et al. Digitalization of routine health information systems: Bangladesh, Indonesia, Pakistan. *Bulletin of the World Health Organisation*, 2022

Lubell-Doughtie P, Bhatt S, Wong R, Shankar A. Transforming Rapid Diagnostic Tests for Precision Public Health: Open Guidelines for Manufacturers and Users. *JMIR Biomed Eng*, 2022

Chunjong Park et al. The Design and Evaluation of a Mobile System for Rapid Diagnostic Test Interpretation. *Proceedings of the ACM on Interactive Mobile Wearable and Ubiquitous Technologies*, 2021.

Lubell-Doughtie, P. and Sondag, J. Practical Distributed Classification using the Alternating Direction Method of Multipliers Algorithm. *IEEE BigData*, 2013.

Lubell-Doughtie, P. et al. Improving Data Collection and Monitoring through Real-time Data Analysis. *ACM DEV*, 2013.

Lubell-Doughtie, P. and Hamilton, K. Heliod at TREC-Legal 2011: Learning to Rank from Relevance Feedback for e-Discovery. *Proceedings of the 2011 Text REtrieval Conference*, 2012.

Lubell-Doughtie, P. and Hofmann, K. Learning to Rank from Relevance Feedback for e-Discovery. *ECIR 2012 - 34th European Conference on Information Retrieval*, 2012.

Lubell-Doughtie, P. and Hofmann, K. Improving Result Diversity using Probabilistic Latent Semantic Analysis. *DIR 2011 - Dutch-Belgian Information Retrieval Workshop*, 2011.

Lubell-Doughtie, P. Using Genetic Programming to Evolve a General Purpose Sorting Network for Comparable Data Sets. *Genetic Algorithms and Genetic Programming at Stanford 2003*, 2003.

## RECENT TALKS

Genomics and Science Dojo Workshop 2024, Lombok, Indonesia.

FHIR DevDays, 2023, Amsterdam, Netherlands.

WHO SMART Guidelines Symposium, 2023, Geneva, Switzerland.

Symposium on Open Guidelines for Rapid Diagnostic Tests, Organizer and Keynote, 2022, Virtual.

Global Development Health Forum 2019, Bethesda, Maryland, USA.

Saving Brains Data For Action Workshop 2019, Dubai, United Arab Emirates.

Saving Brains Data Preparation, Analysis, and Writing Workshop 2019, Sao Paulo, Brazil.

Royal Academy of Engineers, Frontiers on Engineering for Development 2018, Ho Chi Minh City, Vietnam.

Columbia Global Mental Health Seminar 2018, Columbia University Medical Center, New York, New York, USA.

Geo for Good User Summit 2015, Google Headquarters, Mountain View, California, USA.

PyConZA 2014, Keynote, Writing Python Code to Decide an Election, Johannesburg, South Africa.

Mobile Technologies and their Intersection with Global Health, Mount Sinai Global Health Program 2014, New York, USA.

IEEE Big Data 2013, Industry Track, Santa Clara, USA.

Startup Track, Society of Scholarly Publishers (SSP) 2012, Washington D.C., USA.

DataDev Workshop, Mobile Data Management 2012, Bangalore, India.

TECHNICAL SKILLS

- *Programming Languages:* C, C++, Clojure(Script), CQL, Java, JavaScript, Kotlin, Lisp, Perl, PHP, Pig, Python, Ruby, SH, SQL, TypeScript
- *AI/ML:* Keras, langchain, Matlab, Mediapipe, Pandas, R, SciPy
- *Software:* Ansible, Apache, Beam, Cascalog, Django, Docker, Hadoop, HAPI FHIR, Helm, Kubernetes, Nginx, NiFi, React, Ruby on Rails, Spark, Terraform
- *Datastores:* Kafka, MySQL, Parquet, PostgreSQL, Sqlite
- *Cloud Providers:* AWS, GCP, Hetzner
- *Regulatory Frameworks:* GDPR, HIPAA