David LINDELÖF

Lead Data Scientist

Lead data scientist, researcher, technical lead, agile coach, blogger, and public speaker with fifteen years of experience applying machine learning techniques in complex software projects. Proficient technical writer, meeting facilitator and public speaker. Passionate about learning, teaching and helping people (and myself) grow.

WORK EXPERIENCE

Current SINCE JUL 2018	**Lead Data Scientist at EXPEDIA GROUP, Geneva** *Online travel agent* Developed recommender systems that help properties selling on the Expedia platforms discover promotion opportunities, each with a potential of USD 500M extra revenue globally. Promoted and helped the adoption of causal inference techniques by analysts and data scientists. Promoted the use of survival analysis techniques for modeling sales of room-nights. Mentored a team of six data scientists. Developed new collaboration models with software engineering teams, leading to a reduction in time-to-market for new products.
SEP 2010–JAN 2018	**Chief Technology Officer at NEUROBAT AG, Meyrin** *Model-predictive control of building energy systems* Developed an adaptive, model-predictive control algorithm for building services based on machine learning techniques, provided as a portable C/C++ library for embedded systems. Developed new techniques based on Bayesian statistics for evaluating the energy efficiency of buildings. Authored two R packages for field data analysis, one of which is published on CRAN. Authored three peer-reviewed publications and six conference presentations. Designed database schema for representation and collection of field data. Oversaw development of company IT infrastructure. Grew, led, and managed a team of seven software engineers. Collaborated on three European projects.
FEB–DEC 2010	**Senior Software Engineer at ALMAZ INFORMATIQUE SA, Lausanne** *IT services provider* Designed fractional factorial experiment for maximising throughput in a trading application. Developed a common facade built on Java/JEE technologies that integrated a dozen different credit card processing systems in a PCI-compliant manner for a major international company.
JAN 2010–JUN 2013	**Lecturer at SWISS FEDERAL INSTITUTE OF TECHNOLOGY, Lausanne** *Part-time freshman course on programming* Taught a one-semester, first-year course on programming in C to chemistry students. Designed curriculum and assignments. Worked with teams of about 5 teaching assistants.
DEC 2007–JAN 2010	**Senior Software Engineer at OPTAROS SA, Geneva** *IT services provider* Enterprise integration projects for large multinational customers, built on technology stacks including the MULE enterprise service bus, the JBOSS and WEBLOGIC application servers, and the TOMCAT servlet container. The projects included a company-wide integration of new and legacy databases, payment systems, point of sales, and warehouse management systems. Some integration tests written in the SCALA programming language.
AUG 2004–NOV 2007	**Technical Lead at ADHOCO AG, Winterthur** *Embedded smart control of building services* Led a 3-person engineering team at a startup company in parallel to my doctoral work. Designed software for a family of smart controllers for residential building services (lighting, heating, etc) based on OSGi. Introduced software engineering best practices (version control, code reviews, retrospectives, etc).
FEB 2003–NOV 2007	**Research Assistant at SWISS FEDERAL INSTITUTE OF TECHNOLOGY, Lausanne** *Solar Energy and Building Physics Laboratory* Developed and tested an algorithm, based on Bayesian statistics, for the optimal use of natural daylight and artificial lighting in an office building. Collaborated on two European projects. Authored three peer-reviewed publications.
APR 2000–DEC 2002	**Researcher at UNIVERSITY OF ZÜRICH** *The ATHENA (anti-hydrogen apparatus) experiment at CERN, Geneva* Assembled, tested, and commissioned an antihydrogen annihilation detector for the ATHENA experiment, a 40-people international collaboration. Operated the detector during the experimental runs, which led to a paper in NATURE. Participated in the data analysis using the ROOT framework developed at CERN.

Education

Nov 2007	Doctor of Science **Swiss Federal Institute of Technology**, Lausanne Thesis: "Bayesian optimization of visual comfort" | Advisor: Prof. Jean-Louis Scartezzini
Apr 2000	Master of Science in Physics **Swiss Federal Institute of Technology**, Lausanne

Online Courses

Sep 2020	Artificial Intelligence Nanodegree (Udacity, given by Peter Norvig)
Jun 2019	A Crash Course in Causality (Coursera)
Mar 2019	Game Theory (Coursera)
Jan 2018	Design of Computer Programs (Udacity, given by Peter Norvig)
Jun 2015	Principles of Reactive Programming (Coursera, with Prof. Martin Odersky)
May 2015	Algorithms, Part II (Coursera, given by Prof. Robert Sedgwick)
Feb 2015	Developing Data Products (Coursera)
Feb 2015	Statistical Inference (Coursera)
Dec 2014	Reproducible Research (Coursera)
Dec 2014	Software Testing (Udacity)
Sep 2014	Machine Learning (Coursera, given by Andrew Ng)
Apr 2014	Convex Optimization (Stanford OpenEdX, given by Prof. Stephen Boyd)
Nov 2013	Functional Programming Principles in Scala (Coursera, given by Prof. Martin Odersky)
Oct 2013	Algorithms, Part I (Coursera, given by Prof. Robert Sedgwick)

Open Source Projects

Since 2019	Contributor to PySpark, a Python binding for Apache Spark (https://github.com/apache/spark)
Since 2016	Contributor to CppUTest, a unit-testing framework for C/C++ (https://github.com/cpputest/cpputest)
Since 2012	Main author of homeR, an R package for analysing building data (https://github.com/neurobat/homeR)

Languages

French:	Mothertongue
Swedish:	Mothertongue
English:	Fluent
German:	Good knowledge

Skills

Technical skills

Expert:	C, C++, Python, R, Java/J2EE, SQL, MATLAB/Simulink, Linux, Tableau
Proficient:	Compilers, Apache Spark, Cython, Boost, Swift, Scala, Lisp, OSGi, JavaScript, TypeScript, Angular, Mathematica, Spring, Hibernate
Competent:	Erlang, JavaScript, ROOT, LabVIEW, Perl, PHP

Scientific skills

Expert:	Building Physics, Causal Inference, Survival Analysis, Bayesian Statistics, Machine Learning, Control Theory, System Identification, Design of Experiments, Reproducible Research
Proficient:	Particle Physics, Astrophysics, Time Series Analysis, Forecasting

Leadership skills

Expert:	Lean and Agile Coaching, Scrum, Kanban
Proficient:	Project Management, Project Retrospectives, Hiring and Recruiting

Personal Data

Born:	Österhaninge, Sweden | 16 December 1976
Address:	Chemin de l'Ancienne-École 37, 1288 Aire-la-Ville, Switzerland
Phone:	+41 79 415 66 41
email:	lindelof@ieee.org