

Christian Stefansen

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Profile

Engineering manager/senior staff software engineer (13+ years of programming, 5 years managing people, up to 10 direct reports), **12 years managing projects** up to 25 people, **3 years of product management**, 2 years of **board of directors** experience). Seeking **role in machine learning engineering** with close quant. research collaboration. **Able to lead a team and manage ICs/junior managers**, but this is not a requirement.

Danish citizen and US Permanent Resident.

Education

- 2008 **University of Copenhagen**
Ph.D. (2008), M.Sc. (2005), B.Sc. (2003), Computer Science and Mathematics
GPA 11.0 (\approx top 2%). Ph.D. thesis on commercial contract modeling, distributed prog., work-flow, ERP systems (prototype in F#), 10+ publications, Microsoft scholarship.
- 2002 **Copenhagen Business School**
HD, Business Administration (Danish 4-year part-time program; roughly equivalent to an MBA)
- 2004–
2005 **Harvard University**
Fulbright Fellow (19 recipients nationally (Denmark))
- 2001 **California Institute of Technology**
Undergraduate exchange (4 students from the University of Copenhagen selected)
- 2012,
2013 **Coursera**
Stanford: Machine Learning 100%, Probabilistic Graphical Models 97.9% *with Distinction*.

Experience

- 2023/3–
2024/2 **Two Sigma Investments** *Garden leave* Scarsdale, NY
- 2018/5–
2023/2 **Two Sigma Investments** *Software Engineer/Manager MG6* New York, NY/London, UK
Lead the Machine Learning Engineering team at Two Sigma (10 direct reports), designing and implementing the comprehensive firm-wide time-series aware ML research libraries across several research and production environments. Oversaw delivery of bespoke eng. solutions for a large number of alpha models/year. Collaborated with modelers to implement and production-alize in-house ML techniques. Delivered abstract distributed compute layer for cloud training. Tools: Python, Pandas, sklearn, Dask, TensorFlow, and various boosted tree packages.
- 2017/1–
2018/5 **DeepMind** *Research Engineer* London, UK
Designed, implemented, and deployed machine learning models for resource allocation in cloud infrastructure/data centers, saving \$50M+/year. Tools: TensorFlow, Python, C++.

- 2013/8–2016/12 **Google** *Technical Lead/Senior Software Engineer* Mountain View, CA/London, UK
 Applied research in natural language understanding under Ray Kurzweil – specifically, semantic representation and textual inference. Languages: Python, C++.
 Previously, assumed technical leadership of Google’s disease surveillance efforts. Built new team of 4. Completely re-architected and rewrote geo-temporal machine learning/nowcasting models. Awarded 4 extra (out-of-cycle) bonuses for this work. Assigned to London from 2014/7.
- 2009/4–2013/8 **Google** *Product Manager/II* Mountain View, CA/Århus, Denmark
 Managed Native Client (statically validated native code sandbox (x32, x64, ARM) with on-the-fly translator from LLVM for Google Chrome) from research stage to first product launch ever. Team of 25+ engineers. Launched 15+ titles with our game industry partners, 1.8M+ app installs. Built debugging/profiling solutions, doubling frame-rate for several games. Ported Amiga 500 emulator in C to Chrome, rewriting graphics, audio, input layers for PPAPI; worldwide press coverage (20+ newspapers).
 Google Certificate of Excellence 2009 and 2011. Promoted from *Product Manager/I* in 2012.
- 2008/6–2009/1 **University of Copenhagen** *Postdoctoral Researcher* Copenhagen, Denmark
 Developed prototype of event-driven ERP system with commercial contract handling in F#.
- 1997/10–2008/12 **Concentric IT** *Co-founder/CFO* Copenhagen, Denmark
 Built company; hired/managed 4 employees; headed consulting and implementation projects (VBA, ASP, HTML, JavaScript). Handled finance/accounting; developed an ERP system in VBA.
- 2007/2–2007/8 **Microsoft Research** *Research Intern* Bangalore, India
 Mathematically formalized and implemented a task allocation language in F#.
- 2005/09–2005/11 **IBM Research** *Research Intern* Hawthorne, NY
 Developed the mathematical foundation for Reactors, a distributed programming model.
- 2002/9–2003/3 **University of Copenhagen** *Research Programmer* Copenhagen, Denmark
 Programmed part of a Standard ML compiler with region-based memory management.
- 2001/7–2002/8 **Maconomy (an ERP system vendor)** *Programmer/Systems Designer* Copenhagen, Denmark
 Implemented client/server software and ERP system code in Java (J2EE), C#, .NET, and M-script.

Board experience

- 2013/4–2016/6 **One World Children’s Fund** *Treasurer, Member of the Board of Directors* San Francisco, CA
 A 501(c)(3) that provides education, healthcare, and shelter to children in poverty via 40+ partners in 25+ countries. Distributes \$1M/year; 500,000+ children served.
 Also elected *Treasurer* (highest-ranking financial officer) for the 2013/4–2015/4 term.
- 2002–2004 **University of Copenhagen** Copenhagen, Denmark
Elected Vice Chairman of Academic Board/Exec. Committee (2003–2004); Dept. Board (2003–2004). Served on Public Relations Committee (2003); Curriculum Committee (2002–2003)

Leadership and volunteering

- 2015/7–2015/8 **Google Disaster Corps/Room To Read** *Film Producer/Front-end Developer* Nuwakot, Nepal
Deployed to the 2015 earthquake areas to film ads to raise \$5M for rebuilding 700 classrooms. Implemented roomtoread.org/nepalearthquake in Bootstrap/HTML/JavaScript to host the films.
- 2015/4 **Verizon Powerful Answers Award** *Judge* San Francisco, CA
Global startup competition awarding a total of \$6M to 12 winners; 1400+ participants.
- 2012/11 **Microfinance Institutions Network (a nonprofit)** *IT Consultant* Gurgaon, India
Wrote specification and developed a prototype to visualize/analyze district-level microfinance activity (clients, branches, gross loan portfolio, portfolio at risk, etc.) across lenders in India.
- 2012/11 **Make A Difference (a youth volunteer network)** *Teacher* New Delhi, India
Taught 150+ orphanage girls aged 13–16 basic Internet (search, email) for career development.
- 2012/7 **Rickshaw Race for Education** *Organizer* across India from Mumbai to Chennai
Sole organizer of a fundraiser raising about \$9,000 to benefit Asha for Education, an Indian NGO. Designed and implemented a microsite (stefansen.dk/rickshaw) for the online campaign.
- 2015/10 and 2011/9 **Start-Up Chile** *Judge* San Francisco, CA
Served twice. Judged 2×10+ business plans in worldwide startup competition held by the Government of Chile. Winners got \$40,000 in equity-free seed capital; 2000+ participants.
- 2002/1–2002/5 **Center for Grid Computing Research** *Coordinator* Odense/Ålborg/Copenhagen, Denmark
Helped secure DKr 7.5M (\$1.1M) funding by coordinating research goals across 5 institutions.

Languages

English (near-native level), Danish (native), French (≈ CEFR B1), German (≈ CEFR A2), Spanish (≈ CEFR A1)

Interests and Hobby Projects of Note

Interests: **Piano** (on and off over 20+ years, mostly blues, jazz standards, and pop), **writing** (editor of two school newspapers and a sometime travel blogger), downhill **skiing**, mountain **biking**, **tennis**, **running** (half marathon in 2022).

Hobby projects: **Craigslist apartment finder** using SpamAssassin, **game-theoretical analysis of Brexit** negotiations with Gambit (correctly predicting hard Brexit), Scarsdale **house price model**, **MIT Tennis Graph 2005** for identifying over-/underrated players on the ladder. Played **guitar** in a grunge band and **co-wrote a few songs**.

Addendum: Academic Qualifications

Profile

Solid academic research credentials (10+ publications, *h*-index of 10) and excellent communication skills (frequent public speaker, 3 years as a top-rated university teacher). Left academia after completion of post-doc.

Teaching

- 2005/12– **University of Copenhagen** *Instructor* Copenhagen, Denmark
2007/2 LECTURED ON DATA STRUCTURES, ALGORITHMS, FUNCTIONAL PROGRAMMING AND OO DESIGN/PROGRAMMING (Java/Standard ML). CONSISTENTLY RANKED LECTURER #1; COURSE OF APPROX. 100 STUDENTS.
- 1998/9– **University of Copenhagen** *Teaching Assistant* Copenhagen, Denmark
2004/6 TAUGHT 3 DIFFERENT COURSES SEVERAL TIMES. MACHINE ARCHITECTURE (MICRO-ARCHITECTURE, INSTRUCTION SETS, MEMORY HIERARCHIES). COMPILERS DESIGN (LEXERS, PARSERS, TYPE CHECKING, GARBAGE COLLECTION, CODE GENERATION). FUNCTIONAL (TYPE INFERENCE, HIGH-ORDER FUNCTIONS, POLYMORPHISM, INDUCTIVE REASONING) AND OO PROGRAMMING (DESIGN PATTERNS, PARAMETRIC POLYMORPHISM).

Guest lectures and events

Key events: TED: **TEDMED** Great Challenges panel, “Track, Treat, Prevent: a Better Battle Against Communicable Diseases”. Hosted official Google visit of Sofie Carsten Nielsen, **Danish Minister of Higher Education and Research**. Hosted the **Confederation of Danish Industry** at Google. Guest lectures at Santa Fe Institute, Wellcome Trust, School of Public Health at Univ. of Illinois (Grand Rounds: Distinguished Lecturer Series).

Publications

Selected publications

- [1] John Field, Maria-Cristina Marinescu, and Christian Stefansen. Reactors: A data-oriented synchronous/asynchronous programming model for distributed applications. *Theoretical Computer Science*, 410(2-3):168–201, 2009.
- [2] Jesper Andersen, Ebbe Elsborg, Fritz Henglein, Jakob Grue Simonsen, and Christian Stefansen. Compositional specification of commercial contracts. *Springer International Journal on Software Tools for Technology Transfer (STTT)*, 8(6):485–516, 2006.
- [3] Christian Stefansen. SMAWL: A SMALL Workflow Language based on CCS. In *Proceedings of the CAiSE Forum of the 17th Conference on Advanced Information Systems Engineering*, June 2005.

Full list: scholar.google.com/citations?user=6fAsDvgAAAAJ.

Refereeing

Journal refereeing: The Computer Journal (Oxford Journals) and Springer International Journal on Software Tools for Technology Transfer. **Committee service:** Int’l Conference on Business Process Management (BPM) 2007 Demo Program Committee. **Sub-refereeing:** Asian Symposium on Programming Languages and Systems (APLAS) 2007, ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE) 2007, Int’l Conference on Coordination Models and Languages (COORDINATION) 2004, European Symposium on Programming (ESOP) 2004, Int’l Conference on Web Information Systems Engineering (WISE) 2004.