Curriculum vitae

Johan Dahlin

Business-minded PhD passionate about data, algorithms and improving the world.

Who am I?

I am passionate about finding hidden patterns and trends in data by using AI. It is important for me that these results can be used in a meaningful way to e.g., enable better decision making within companies, to develop new product features and perhaps also to improve the world. I have a deep knowledge and a lot of experience in developing new AI algorithms, teaching others about them and applying these methods in many different fields in both industry.

My customers and co-workers know me as a resourceful, outgoing and communicative entrepreneur who delivers good solutions on time. I believe that great things are done together and I love working in cross-functional teams to solve challenging problems that makes a difference. I bring positive energy and momentum into any project. I am often described as ambitious, organised, a quick learner and a highly valued colleague with excellent social skills.

Knowledge and experience
- Data science
- Machine/Deep learning
- Programming in Python, R & C

Personal skills
- Communication
- Project management
- Entrepreneurial thinking

Characteristics
- Curious and knowledgeable
- Making things happen quickly
- Dedicated & positive teamplayer

Machine learning and data science projects (tailored selection)

Machine learning-based search and recommendation system - consulting for Consecio AB
Developed a data-efficient and energy-efficient solution for a mobile application where no data leaves the smartphone during either training or prediction. Prototyped in Python and implemented in Javascript.

Machine learning methods in agriculture - consulting for AgriOpt AB
Wrote a pre-study with a large number of suggestions for using data-efficient reinforcement learning and active learning to optimize crop farming and the use of fertilizers to save costs and minimise leakage into waterways.

Deep learning solution for screening mammography images - Sectra AB
Developed a state-of-the-art Python implementation based on convolutional neural networks trained on only a small amount of real data for detecting anatomical landmarks used for planning biopsies. This can potentially automate a time-consuming step in the treatment as well as minimising the discomfort experienced by the patient.

Decision support system for radiologists - Sectra AB
Developed a system to propose possible diagnoses given the report from a radiologist based on analysis of previous cases in the database. The system was implemented in a full-stack software solution using React/Redux and Python together with state-of-the-art machine learning algorithms.

Data fusion for entity matching - consulting for FOI
Gave a course in R and developed new methodology for entity matching (identifying multiple user accounts belonging to a single person) based on methods from natural language processing and social network analysis.

Work experience (tailored selection)

June, 2011 – Present
Founder and consultant
Kotte Consulting AB — Stockholm, Sweden.

Developing data-driven analysis and software solutions based on data science, statistics and machine learning from data to full-stack implementations. See projects on previous page for more some examples.

August, 2017 – August, 2018
Research associate
University of Newcastle — Newcastle, Australia.

Developed new methodology for prediction in dynamical systems using Bayesian inference and machine learning resulting in three conference papers. Helped out in supervising two Master's thesis students and one PhD student.

March, 2017 – July, 2017
Principal research engineer
Linköping University — Linköping, Sweden.

Developed algorithms for find survivors in disaster areas by directing the search using probability maps. The solution was based on state-of-the-art machine learning methods and spatial statistical models.

September, 2016 – February, 2017
Research scientist
Sectra AB and Uppsala University — Linköping, Sweden.

Developed decision support systems for radiologists based on image and text data (see project examples on previous page). The systems made use of tools from deep learning, natural language processing and machine learning.

September, 2014 – December, 2014
Visiting researcher
University of New South Wales (UNSW) Business School — Sydney, Australia.

Invited guest researcher at the department of Economics working on joint research projects concerning methodology for inference in big data projects with applications in health economics.

September, 2006 – December, 2010
Student recruiter, educator and project leader for "Umestudent för en helg"
Faculty of Science and Technology, Umeå University — Umeå, Sweden.

Part time employed and responsible for recruiting and training students who visits schools and fairs to recruit new students to the university. Partly responsible for arranging fairs, visits, etc. Project manager and initiator of a recruitment project with a 500k SEK budget and involving 100 students, university employees and 125 visiting secondary school students. The project was a great success resulting in good PR and improved recruitment.

July, 2008 – June, 2009
Head of information matters and member of the board
Umeå Student Union of Science and Technology — Umeå, Sweden.

Full time employee with special responsibility for strategic communication and marketing. Responsible for a large oversight of governing documents, strategies and economical structure (turnover 4M SEK).

Education

September, 2011 – May, 2016
Doctor of Philosophy in Automatic Control
Linköping University — Linköping, Sweden.

Developed efficient computational methods for Bayesian statistical inference in 16 peer-reviewed publications. Thesis title: *Accelerating Monte Carlo methods for Bayesian inference in dynamical models*. Two years of postgraduate coursework in statistics, probability theory, machine learning and automatic control. One year of teaching and project/thesis supervision with a lot of positive feedback and praise from students.

September, 2005 – July, 2011
Master of Science in Engineering Physics
Umeå University — Umeå, Sweden.

Four and a half years of coursework in mathematics, physics, statistics and risk management. My Master's thesis *Detecting community structures in imperfect networks* was written while at the Swedish Defence Research Agency (FOI). The results from the thesis have been presented in two peer-reviewed conference publications.

September, 2009 – June, 2011
Bachelor of Science in Economics
Umeå University — Umeå, Sweden.

Three years of coursework in micro-/macroeconomics, law, corporate strategy, marketing, group psychology and project management. Title of Bachelor thesis: *Simulated double auction-markets with production and storage*.

Commission of trust (tailored selection)

October, 2016 – June, 2017
Webmaster and member of the board
Toastmasters International, Linköping Club — Linköping, Sweden.

Partly responsible for the club homepage and social media accounts with the aim to recruit new members. I also helped out with arranging activities for the members of the club.

February, 2006 – June, 2008
Worker and team leader
Nationernas Hus (NH) — Umeå, Sweden.

Team leader with responsibility for managing and educating volunteer workers at a student pub. Awarded the best team leader prize during the spring of 2008.

January, 2006 – June, 2008
Vice president of the board
The Nation of South Sweden — Umeå, Sweden.

Responsible for the recruitment of new members and for activities arranged by the student society.

Linguistic and computer skills

Communication	Swedish (native), English (fluent, CEFR level: C2 in CAE test) and German (basic). Competent communication (CC) award from Toastmasters International.
Programming	Everyday: Python (NumPy, SciPy, Scikit-learn, Pandas), R, Git and WordPress. Sometimes: C, MATLAB, Tensorflow/Keras, React/Redux and MongoDB/SQL.
Computers	General big interest in computers from a very young age. Overall excellent skills with most operating systems and standard software.

Miscellaneous

I have engaged in a large number of smaller commissions of trust in various student associations and other voluntary associations. As part of this, I have attended a number of smaller courses on leadership, effective presentations and marketing.

As a person, I strive to develop a bit everyday to become the best version of myself and at the same time to help others in their lives. My spare time is an important part of my life as it serves to improve my resilience to stress, face different kinds of challenges (compared to work) and to keep and nurture my creativity. At the moment, I am focusing on carrying out *en svensk klassiker* during 2019, learning to play the guitar, practicing meditation/yoga and improving my photography skills. I also spend a lot of time with my friends and family, engaging in different clubs (IK NocOut.se and Toastmasters) and relax in nature.

References, certificates and letters of recommendation

Available upon request. A list of my publications and invited talks is available at `https://www.johandahlin.com/`.