

RIKKE DAG RANDLØV

DATA-DRIVEN PHYSICIST WITH A PASSION FOR MACHINE LEARNING AND STATISTICS

PROFILE

I would love to work with advanced analytics and machine learning at DSB Digital Labs. As a physicist, I have a lot of experience with understanding and analyzing data. I know the importance of identifying good data and processing it for optimal modelling. I am looking forward to applying my ML and analytical skills to challenge the way you work with data to help you optimize the organization.



SKILLS

Data Analysis

- Statistical Analysis
- Machine learning

Computational Modeling

- Differential equations
- Agent-based modeling

Data Management

Natural Language Processing
Continuous Integration (Git)

Programming languages

- | | |
|------------|-------|
| Python | ●●●●● |
| MATLAB | ●●●●● |
| SQL | ●●●○○ |
| SSIS | ●●●○○ |
| TensorFlow | ●●○○○ |
| Java | ●●○○○ |

WORK EXPERIENCE

2019 - now IT Consultant at Netcompany

Working as a consultant, I need to quickly adapt to new technologies in order to deliver high-quality work to the client from the beginning. Working with data conversion on the 'Boligstøtte' project, I have learned Java and SQL, and working at 'Arbejdstilynet' I have learned much about data warehousing and the SSIS package technology. Although I had never worked with these technologies before, I was able to quickly catch up and deliver high-quality solutions.

2018 Internship as Data Scientist at Analyse & Tal

At Analyse & Tal, I performed NLP and Machine Learning tasks to determine the topics of political texts in a multi-class multi-label context. This required me to analyse complex text data using modern NLP techniques such as Word Vectors and TF-IDF. These combined with Neural Networks and other ML-tools resulted in very high accuracy. I really enjoyed the challenges of working with the Danish language.

RELEVANT PROJECTS

Winner of [WomenHackCPH](#) 2019

My teammates and I did a project for LEGO to improve their LEGO Life app. Our project won because a) it exploits the user's expert knowledge to enrich the data, b) it engages the user in the app via gamification in a fun and exploratory way, c) the solution fits well within the current form of the app, which makes it simple to implement, and d) the solution corresponds with the LEGO philosophy and business approach. After the hackathon, our group were invited to Billund to present the solution to the Vice President, the management, and the team in charge of developing the app.

Gender Classification from Blog Data

I developed an algorithm to determine gender based on the usage of high-frequency words. The data mining required a lot of pre-processing of the text data using bash. I firstly applied classic statistical tools to determine differences in word usage between the two genders. I then trained an Adaptive Boosted Decision tree and an SVM on the data. Neither ML or statistical tools yielded good classification using the high-frequency words. This has taught me, that your ML-algorithm is only as good as the data you feed it.

EDUCATION

2016-2018 Master of Physics

Niels Bohr Institute, University of Copenhagen

Throughout my master degree, I have developed my programming skills with a focus on data analysis through statistics and Machine Learning, computational modeling, and optimizations.

Thesis: *Collapse models of populations and ecosystems*

In my thesis, I investigated ecosystems in lakes using simulations of ODEs implemented in MATLAB.

Course examples: Machine Learning & Large Scale Data Analysis,
Department of Computer Science

These two courses have taught me the theory behind some of the most widely used ML algorithms. By applying these algorithms on *big data*, I gained hands-on experience with the algorithms. My skills include:

- SVM • (Deep) neural networks • K-nearest neighbors • TensorFlow
- PCA • (Boosted) decision trees • K-means clustering • SciPy

Course examples: Applied Statistics & Advanced Methods in Applied Statistics

During these courses, I have been introduced to both basic and more advanced statistical tools through practical exercises using real-world data. Amongst other topics, I was introduced to:

- Monte Carlo simulations • Markov Chain - Monte Carlo • Error propagation
- Max likelihood fitting • Kolmogorov - Smirnov test • Chi-square test

2012-2016 Bachelor of Physics

Niels Bohr Institute, University of Copenhagen

Thesis: *A study of social behavior from cellphone data*

I investigated social behavior using big data collected from cell phones. The data analysis was performed on a server using programming in Python.

VOLUNTEER WORK

2007-2020 Board Member

I joined my first board as a junior representative of the local CISV branch when I was 15. I have since been part of the board in many of the communities around me. I have been in the board of the 'Andelsbolig' association, founded the Bohr Alumni Association and remained in the board ever since. Most recently, I have also joined the board of my choir and that of the homeowner association of my apartment block. I enjoy being part of the decision making and find this makes me more engaged in the communities.

2011-2015 Interchange Leader and Trainer with [CISV](#)

I was a leader for a group of children on 2 [interchanges](#); with Italy in 2015 and with Poland in 2011. In 2013 I trained the new interchange leaders. This taught me to take responsibility for others from a fairly young age. Through this work, I learned how to work with others across cultural and language barriers. As a trainer, I taught conflict resolution skills to others and planned and facilitated workshops.

PERSONAL LIFE

Hosting dinners and mixing cocktails for my guests and making them stay past their bedtime is my trademark. When I'm not entertaining guests, I enjoy crocheting freestyle patterns as I like the creative process of getting the pattern or shape just right. I enjoy traveling and I have been doing my best to meet people from other countries and explore the differences in our world view and culture. As a student, I have been on stage in the FysikRevvyTM, the students' sketch show, as a singer and actor.