Christian Michelsen

Data scientist with a flair for multidisciplinary problem solving

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PROFILE

While developing software tools in the field of ancient genomics, I have gained strong technical skills in data analysis, mathematical modelling, and software development.

When I developed an agent-based model for Statens Serum Institute during the beginning of the COVID lockdown, I further strengthened my multidisciplinary problem-solving skills and practiced working in an extremely high-performance environment with tight, political deadlines and a requirement of strong project management skills.

SKILLS

Data Science
- Data Analysis & Statistics
- Machine Learning
- Bayesian Inference
- Data Visualisation

Personal strengths
- Project management
- Science communication
- Stakeholder management
- Knowledge translation

Programming
- Python
- Julia
- LaTeX
- Git

EMPLOYMENT

Ph.D. student at University of Copenhagen
2020 – 2022 (Nov.)

- Developed software in the field of ancient metagenomics using modern statistical methods.
- Visualised results by making an interactive dashboard.
- Used machine learning models to reduce the risk of being readmitted after a knee or hip operation.
- Applied deep learning techniques to classify ancient vs. modern DNA.
- Used Bayesian inference to estimate the size of loci in diffusion processes.

Researcher at Statens Serum Institut, SSI
2020 – 2021

- Developed an agent-based model to predict the spread of COVID-19.
- Worked in collaboration with "Ekspertgruppen for matematiske modelberegninger" at SSI.
- Optimised the model which allowed us to simulate the entire Danish population (5.8 million).

Science Educator at Sorø Akademi / Astra
2019 – 2021

- Presented on the use of statistics and machine learning to high schoolers.

Course Instructor at University of Copenhagen
2017 – 2021

- Course instructor in the 5-day course for professionals: Applied Machine Learning and Big Data Analysis.

Teaching Assistant at University of Copenhagen   2017 – 2019

- Teaching assistant in the Bachelor-level course Experimental Physics, 2019, and in the Master-level course Applied Statistics, 2017 and 2018.
- Gave lectures in statistics and was responsible for class-room teaching
- Nominated as "Teaching Assistant of the Year" all three years.

🎓 EDUCATION

Exchange Program at SISSA, Trieste, Italy   2021 – 2022

- Ph.D. exchange program at the International School for Advanced Studies.
- Worked with professor Guido Sanguinetti, head of the Machine Learning and Systems Biology group at SISSA.

Master of Science in Physics, University of Copenhagen, Denmark   2016 – 2020

- Applied machine learning methods to particle physics data from CERN.
- Attended the CERN School of Computing in Tel Aviv, Israel, in 2018. This is a two-week programme focused on advanced topics of scientific computing
- Studied at University of Canterbury, New Zealand, from 2016-2017.

Bachelor of Science in Physics, University of Copenhagen, Denmark   2013 – 2016

- Performed a Bayesian analysis of the radial velocities from stars orbiting black holes to quantify their general relativistic effects.

🌳 VOLUNTEERING

Main Organizer of Julia Meetup   2022 –

- Initialised and organised Julia meetups in Copenhagen.

Judge at Young Scientists competition (Unge Forskere)   2021 – 2022

- Evaluated and judged young students at the Unge Forskere competition.

Student Tutor (Rusvejleder) at University of Copenhagen   2014 – 2018

- Planned and executed events to strengthen the students' networks.

Steering Committee Member at Danish Red Cross Youth   2013 – 2015

- Member of the national Steering Committee for tutoring cafes.
- Organized the local tutoring cafes and facilitated national workshops.

⛰ HOBBIES

In my spare time, I am a professional wedding photographer and outdoor enthusiast. When I am not kayaking at sea, hiking in the mountains, or sailing in my boat, I relax by editing the pictures from my travels or watch a new series on my couch at Christianshavn.