Laura Frølich

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Employment

October 2016-present	Data Scientist at Think Big, A Teradata Company.
March 2016-September 2016	Statistician at the Bandim Health Project, Research Center for Vitamins and Vaccines, Statens Serum Institut
September 2011-March 2016	PhD student at the Department of Applied Mathematics and Computer Science at the Technical University of Denmark.
2010	Temporary employment at the University of Copenhagen as translator (Danish to English).
2009	Online teaching assistant in "Introduction to Statistics" and "Probability and statistics" at DTU.
2008-2010	I wrote up solutions to old exam questions for the courses "Introduction to Statistics" and "Probability" at DTU. These solutions are now used as part of the course material.
2008-2009	I helped make problems for exams in the course "Probability" at DTU.
2008-2009	I acted as guide in the introduction week for new international students at DTU twice.
2007-2009	As student assistant in the Statistical Consultancy Center at DTU Informatics I programmed solutions to statistical problems for different companies.
2006 - 2009	Teaching assistant at DTU in the courses "Probability", "Introduction to Statistics", "Probability and statistics", and "Time Series Analysis".

Education

September 2011	Master of Science from the Elite Master program "Industrial Mathematics" at the Technical University of Denmark, grade average: 10.9. (DTU). Areas of study:
	
	• Statistics
	    – Mixed linear models
	    – Multi-variate methods
	    – Stochastic processes
	• Machine learning
	    – Supervised classification
	    – Exploratory data analysis
	    – Linear and non-linear models
	    – Regularised and sparse models

September 2011	Master's thesis, "Statistical evaluation of features in classification problems with applications to detection of hypoglycemic conditions based on EEG data", grade: 12. • EEG data (recordings of electrical brain activity) • Independent component analysis • Automatic data cleaning • Epileptic seizure detection in EEG
2009	Graduated as Bachelor of Science from DTU in Mathematics and Technology. Focus on statistics and computer security, with supplementary programming and algorithmic courses. ECTS credits obtained: 220 (180 ECTS credits required for this degree). Grade average: 10.32 out of 12 (Danish scale)
2008	Bachelor's thesis, "Primality Testing". I investigated and compared methods for testing whether large numbers are prime. Using my understanding of mathematics, I implemented the investigated theorems in C#. I also programmed a graphical user interface to access the algorithms. Grade: 12 out of 12 (Danish scale).
2008	Curso de Estudios Hispanicos 2008 (nivel Intermedio) (Spanish studies course 2008 (Intermediate level)). 255 hours of instruction between 8/1/2008-16/5/2008. Average: 9.21 out of 10

Study periods abroad

Fall 2013	Machine Learning Group, Technische Universität, Berlin. • We compared Brain-Computer Interfaces on data with or without artefacts using **non-parametric statistical tests**. • I will soon give an oral presentation of the results at the Conference of the IEEE Engineering in Medicine and Biology Society, 2015.
Fall 2010	Swartz Center for Computational Neuroscience, University of California, San Diego (UCSD). • I started work on **automatic classification** of artefacts in EEG data and **identifying informative statistical features**. • I followed the course **"Probability" at UCSD**, grade: A-.
Spring 2009	National Renewable Energy Center (CENER), Spain. • I developed **probabilistic forecasts** of wind mills' production. • I used **factorial experimental designs** followed by **ANOVAs** to determine the parameters most important for prediction. • I presented my work at ANEMOS.plus: 4th Contractors Meeting.
Spring 2008	I wrote my Bachelor's thesis at Universidad de Valladolid, Spain and took cultural, linguistic and history classes taught in Spanish.

Additionally, I have lived in the U.S. for a total of 2 years and in Australia for 3 months.

Languages

My mother tongue is Danish. My English is fluent, both spoken and in writing. I speak Spanish well enough to handle every-day situations. I have a rudimentary knowledge of Japanese and am currently learning the 2000 Japanese characters said to be necessary to understand newspapers.

Publications

- Laura Frølich, Irene Winkler, Klaus-Robert Müller, and Wojciech Samek (2015). Investigating effects of different artefact types on Motor Imagery BCI. Proceedings of 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2015. To appear.
- Laura Frølich, Tobias S. Andersen, and Morten Mørup (2015). Classification of Independent Components of EEG Into Multiple Artifact Classes. Psychophysiology.
- Bo Friis Nielsen, Laura Frølich, Otto Anker Nielsen, and Dorte Filges (2013). Estimating passenger numbers in trains using existing weighing capabilities. Transportmetrica A: Transport Science.
  - We performed a large number of analyses in **SAS**.
- Kasper Eskelund, Laura Frølich, and Tobias S. Andersen (2013). Facial configuration and audiovisual integration of speech: a mismatch negativity study. In Proceedings of ISAAR2013.

Programming skills

I have experience using SAS, Matlab, R, Java, and C#.

Personal

I am fond of travelling, living abroad, and learning languages and hope to get a chance to live abroad, for example in Japan or the U.S., again. I enjoy voluntary work and have sat as chairman of the student council, member of the institutional advisory board for courses, treasurer at Ventilen (which helps lonely youths with peer-interaction), participated in a nature maintenance camp in Japan, and been active in Amnesty International. I am married and have two children (one-year old Anton and three-year old Amanda.)