

## Curriculum Vitae for Jonathan Feinberg

### Personal information

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### Summary

I am a specialist in probability theory, statistics and machine learning with heavy focus on numerical programming and practical applications. I am highly analytical in my thinking and can quickly break down open ended complex problems into manageable components. At the same time I am also an experienced programmer, with expert level knowledge in the Python programming language.

### Technical skills

Frameworks	Armadillo, GIS, Keras/Tensorflow, Matplotlib, NumPy/SciPy, Pandas, PyMC, Scikit-Learn, Statsmodels, XGBoost
Languages	Bash, C, C++, $\text{\LaTeX}$ , MATLAB, Python, R, RST/Markdown, Vim-script, Regular Expression
Tools	Continuous Integration, Version Control Systems, Documentation Generation

### Education

2015	PhD in Mathematics from the Department of Mathematics, University of Oslo. Thesis written at Simula Research Laboratory: "Some Improvements and Applications and Non-intrusive Polynomial Chaos Expansions" Supervised by Professor Hans Petter Langtangen.
2009	Master's degree in Modelling and Data Analysis, Department of Mathematics, University of Oslo. Thesis written at Norwegian Geotechnical Institute: "Threshold Definition of Early Warning Systems to Natural Hazards" Supervised by Professor Bent Natvig.
2007	Bachelor's degree in Mathematics, Informatics and Technology, University of Oslo

## Professional experience

2016 –	Consultant at Expert Analytics
2016 –	Guest lecturer at the Department of Informatics, University of Oslo
2014 – 2015	Teaching Position at the Department of Informatics, University of Oslo
2014 – 2015	Private tutor at high school and undergraduate level at House of Math
2014 – 2015	Scientific Programmer for Simula Research Laboratory
2013 – 2014	Consultant at Kalkulo AS
2011 – 2014	Ph.D. student at Simula Research Laboratory
2009 – 2010	Research Assistant at Texas A&M University
2009 – 2009	Science Teacher at Smerud Medical Research
2008	Assistant Teacher at Department of Mathematics, University of Oslo
2007 – 2008	Student Ambassador at Public Relations and Events Office, University of Oslo
2007	Data Analyst at If P&C Insurance

## Languages

English	Fluent
Norwegian	Mother tongue

## Personal skills

Communication	I am able to convey research and condensed knowledge into a presentable and explainable form. Extensive experience as university lecturer and teacher.
Planning	I am a “Problem solver”, able to see strengths and weaknesses of proposed progress plans, grounded in fact-based thought.
Technology	I have a high enthusiasm for learning and mastering new skills within science, technology and programming.

## Some interests and hobbies

Personal	Traveling, Gin tasting
Tech	Bayesian Statistics/Probabilistic Modelling, Open Source Software, Machine Learning, Global Optimization Algorithms, Python programming

## Extended descriptions of selected projects

Activity	NEC Oncoimmunity
Period	2016 – 2020
Role	Senior Developer and Data Scientist
Staffing	20 Developers/Data Scientists/Bioinformaticians

Description	Oncolmunity develop bioinformatics software that has the ability to empower precision cancer immunotherapy, improving the outlook for patients with late-stage disease. My role there was to develop machine-learning methods applied to genomic data for tumor immune profiling. The goal is to select optimal patients to be assigned to cancer immunotherapy clinical trials.
Tools	Python, Keras/Tensorflow, Numpy, Pandas, Scikit-learn, XGBoost
Activity	Statkraft
Period	Summer 2016
Role	Data Scientist
Staffing	3 developers
Description	Statkraft is a leading company in hydropower internationally, and Europe's largest generator of renewable energy. My role there was to explore the possibility of applying machine learning to parts of Statkraft's core business. In particular, we looked into various machine learning techniques that could be used to predict future market energy consume. The techniques included applying methods like statistical regression, time-series models, and artificial neural networks.
Tools	Python, Keras/Tensorflow, Scikit-learn, Statsmodels
Activity	Vipps AS
Period	Fall 2020 –
Role	Data Scientist/Advisor
Staffing	5 developers
Description	Vipps is the leading service in Norway for person to person financial transaction over mobile in Norway. I have been working on automating the detection of illegal transactions using machine learning, where my role is the machine learning expert providing the methodology.
Tools	Azure, SQL, XGBoost, Tensorflow
Activity	Matlab to C++ converter
Period	2015 – 2016
Role	Software developer
Staffing	2 developers
Description	As part of an EU sponsored project, Simula Research Laboratory and WesternGeco is collaborating to speed up the code translation step from Matlab to C++ using Armadillo. The approach involves creating a full parser that creates semi-automatic translations. I contributed as the developer of the parser, and the structure of translation.
Tools	Python, Armadillo, Sphinx
Activity	Numpoly – Multivariate polynomials as NumPy datatype
Period	2019 –
Role	Creator and Maintainer
Staffing	1 developer

Description	Numpoly is an open source library for creating, manipulating polynomial arrays. The library provides a subclass of <code>numpy.ndarray</code> implemented to represent polynomials as array element. As such it is fast and scales very well with the size of the coefficients, in addition to it being compatible with most <code>numpy</code> functionalities. <a href="https://github.com/jonathf/numpoly">https://github.com/jonathf/numpoly</a>
Tools	Python, NumPy
Activity	Variable
Period	Fall 2020
Role	Advisor
Staffing	3 developers
Description	Variable is a small startup focusing on quantifying climate risk. My job was to teach the team on uncertainty quantification and help formulate the probabilistic building blocks needed to construct risk models.
Tools	Python, PyMC3