JENS SVENSMARK, PhD

Data scientist

An experienced scientist specialized in computational physics. Strong record of computational and mathematical skills, predictive modeling and data visualization.

Creative, driven and self-reliant.

Looking for a data science position in which I can continue to grow.

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svensmark.jp

Jens Svensmark

EDUCATION

PhD in Physics
Aarhus University, Denmark
Aug. 2012 - Sep. 2016

Masters in Physics
Aarhus University, Denmark
Aug. 2011 - Jun. 2014

Bachelor in Physics
Aarhus University, Denmark
Aug. 2008 - Sep. 2011

SKILLS

Programming

Python
- Scikit-learn
- Tensorflow/Keras (deep learning)
- Numpy
- Pandas
- Visualization (Matplotlib,Holoviews)

Fortran
- High-performance computing
- OpenMP

Languages

English: Native level
Japanese: Intermediate (JLPT N2)
Danish: Native level
German: Elementary level

CERTIFICATIONS

Data Science Certification

Datacamp

May 2021

Certified as data scientist professional by Datacamp.

- Built a machine learning model for predicting car prices to help consumers negotiate with car dealers.
- Deployed the model as a flask server with a web frontend (link), to allow users to easily get predictions.

EXPERIENCE

Assistant Professor

The University of Electro-Communications, Chofu, Tokyo

Nov. 2019 - Now

Predicting how molecules move when exposed to lasers, with potential applications in controlling chemical reactions and materials science.

- Developed and implemented a new analytical theory for modeling types of laser-molecule interactions that was very difficult or impossible to model with previous methods. The new theory reduced computational time from months or years down to minutes.
- Implemented a highly efficient reference simulator in fortran to solve the numerically demanding laser-molecule interaction problem at intermediate laser parameters. This allowed me to validate the accuracy of the analytical theory.
- Built a web page, using Hugo and Javascript, for organizing research notes and partial results, to overcome issues with my previous PDF based solution. Now my research notes can include dynamic content, be easily accessed from anywhere, and easily shared with collaborators.

Postdoctoral researcher

The University of Electro-Communications, Chofu, Tokyo

Nov. 2017 - Nov. 2019

Postdoctoral researcher

Kansas State University, USA

Nov. 2016 - Oct. 2017

- Launched a benchmarking effort of algorithms that are in use for solving an atom-laser interaction problem, in order to identify the fastest one. This involved coordinating between 9 research groups in the US, Europe and Asia. Found that the fastest method was more than 200 times faster than the slowest method.
- Built a python tool to manage and partly automate convergence testing, which is a tedious and time-consuming task. This made convergence testing much easier, and freed up time for other tasks.