



# Dan Saattrup Nielsen

Mathematician and Data Scientist

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I am a final year PhD candidate in Mathematical Logic, and am interested in the interaction between machines and human language.

## EDUCATION

### PhD in Mathematics

University of Bristol

09/2016 – Present

Bristol, UK

#### Courses

- Statistical Methods I & II
- Advanced Topics in AI

### MSc in Mathematics

University of Copenhagen

09/2011 – 07/2016

Copenhagen, Denmark

#### Courses

- Functional Programming
- Database Programming
- Object-oriented Programming

## WORK EXPERIENCE

### Data Study Group Facilitator

Alan Turing Institute

12/2019 – 12/2019

London, UK

#### Achievements/Tasks

- Led a data science team of 14 PhD students for a week
- Worked with WWF to see if news data could be utilised to monitor protected sites around the world
- We correctly detect 96% of the news articles that present a potential threat to a protected site, with only 18% false positives

### AI Researcher

Barbal Ltd

09/2019 – 12/2019

Bristol, UK

Barbal develops a word processor designed for large-scale collaboration of technical documents

#### Achievements/Tasks

- Developed a machine learning model that identifies technical terms in construction standards, and set up an active learning pipeline to enable rapid labelling to improve the model's performance

Contact: Tom Bartley – tom@barbal.co

### Teaching Assistant

University of Bristol and Copenhagen

01/2014 – Present

Bristol and Copenhagen

#### Achievements/Tasks

- In charge of weekly exercise sessions for undergraduate students in Mathematics, and gave lectures across multiple courses as well

## SKILLS

Python

PyTorch

TensorFlow

Git

SQL

## PERSONAL PROJECTS

### Scholarly (05/2019 – Present)

- Classifies titles and abstracts of scientific articles into 148 categories, spread across 6 aggregated categories such as Maths and Physics
- The data consists of data from >1 million articles, scraped from the preprint server ArXiv and stored in a SQLite database

### [Package] NaturalSelection (08/2019 – 09/2019)

- Python package implementing a genetic algorithm to optimise hyperparameters of neural networks, with a Pythonic API

### AutoPoet (09/2019 – 11/2019)

- Produce Haiku poems from text sources, which includes a machine learning model that counts syllables in English words with a 97% accuracy

## CERTIFICATES

### Natural Language Processing Nanodegree

(09/2019 – 10/2019)

Udacity nanodegree

### Deep Learning Certificate (06/2019 – 09/2019)

Coursera specialisation

### Stanford Machine Learning (05/2019 – 06/2019)

Coursera course

### IBM Data Science Certificate (04/2019 – 05/2019)

Coursera specialisation

## LANGUAGES

Danish

Native or Bilingual Proficiency

English

Full Professional Proficiency

German

Limited Working Proficiency

Persian

Elementary Proficiency