

# Matthias Wright

## Curriculum Vitae

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## Education

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2018 – 2019 **Master of Science**  
Machine Learning and Autonomous Systems  
*University of Bath*

2015 – 2018 **Bachelor of Science**  
Applied Mathematics And Computer Science  
*FH Aachen University of Applied Sciences*

2002 – 2015 **A level**  
*Rudolf Steiner School Aachen (Waldorf school)*

## Work Experience

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RWTH Aachen University  
**Software Developer**

Sep 2015 – Aug 2018

I worked at the Department of Medical Informatics all throughout my bachelor's degree. Approximately 20 hour per week during the semester and full-time during semester breaks. I built some smaller web applications, wrote a parser for EDF files, made some visualization tools, and developed an Android app.

## Projects

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Apr 2018 – Aug 2018

Detecting abnormalities in clinical data with GANs  
**Bachelor's thesis**

I ran two separate experiments. In one experiment, I examined whether generative adversarial networks are capable of detecting cardiac arrhythmia in ECG recordings. For this, I trained a generative adversarial network with normal ECG recordings. Afterwards, I fed two separate test sets into the trained discriminator. One containing normal ECG recordings and the other containing arrhythmic ECG recordings. The idea was that because the discriminator was trained only on normal recordings, the loss would be larger for the test set containing arrhythmic recordings. For the other experiment, I repeated the procedure in order to examine, whether generative adversarial networks can decide whether or not a patient has respiratory failure, given the blood gas measurements of that patient.

**Tools:** Python, TensorFlow

## Programming Languages

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Fluent    Java, Python

Intermediate    JavaScript, MATLAB

Beginner    C/C++

## Frameworks/Technologies

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Intermediate    TensorFlow, SQL,  
Git,  $\text{\LaTeX}$ , UNIX

Beginner    Keras

## Languages

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Native    German

Fluent    English

Elementary    French