

# Till Breuer

✉ [breuertill@gmail.com](mailto:breuertill@gmail.com)

☎ +49 175 3344334

Mathematician. Data Scientist. Software Developer.

**Data Scientist** with a math diploma from University of Münster and a background in **machine learning**, **software development** and **statistical modelling**.

## EDUCATION

10/2004 – 06/2010

### University of Münster

Diploma in Mathematics / Probability Theory Ø 1.2  
Thesis (1.3): »Zur Rekurrenz von Random Walks«

10/2001 – 10/2004

### Berufsakademie Mannheim

Diploma in Information Technology (BA) Ø 1.5  
Thesis (1.4): »Entwurf einer Architektur zur Publikation von Unternehmensverzeichnissen im Intranet«

1991 – 2000

### Gymnasium Am Geroweier, Mönchengladbach

Abitur Ø 1.4

## EXPERIENCE

### Freelance

Self-employed

8/2019 – present

### Twenty Billion Neurons GmbH

Realtime video understanding

6/2017 – 8/2019

### Data Scientist

I'm currently self-employed and working on various data science projects.

### A.I. Engineer / Senior A.I. Engineer

At Twenty Billion Neurons I worked as a research and development engineer, creating artificial neural networks which detect activities in videos. I participated in developing solutions for spatial and temporal activity detection using deep neural networks and applied the technology in a series of customer projects.

### Responsibilities & Achievements

- Developing solutions for spatial detection performed in real-time on videos
- Developing solutions for accurate temporal predictions and prediction of trigger points in videos
- Realization of customer projects
- Mentoring tasks

## The unbelievable Machine Company GmbH

Cloud Service Provider and Full Service Provider for Data Solutions

11/2014 – 6/2017

### Data Scientist

At the unbelievable Machine Company I worked on a variety of Data Science projects. These include industry projects as well as e-commerce and media-related projects. Among others I worked on

- Computer Vision: Image recognition using neural networks
- Recommendation: Collaborative filtering, content-based recommendations, statistical and bandit approaches
- Predictive maintenance: Predicting malfunction of manufacturing components and classifying errors
- Performance prediction: Predicting distribution of user participation among different channels
- Prediction of energy consumption
- Various clustering / segmentation tasks

### Responsibilities & Achievements

- Leading role in most projects
- Customer communication
- Contributing to the improvement of internal processes
- Introducing best practices for coding
- Speaker at several conferences including the bitkom Big Data Summit

## bitcrowd GmbH

Web Development Consultancy

8/2014 – 10/2014

### Freelance Software Developer

After Krautreporter was crowdfunded I helped developing the platform as leading backend and Javascript engineer. I was responsible for the technical concepts of the platform as well as for implementing the Rails backend, the AngularJS components and making the components work together. The platform had a tight deadline and launched on time.

### Responsibilities & Achievements

- Backend and client-side development
- Choices of technology (web content editor for publishing articles)
- Technical concepts

## finn GmbH / openproject

Software Development Consultancy

10/2013 – 8/2014

### Software Developer

Finnlabs is a Berlin-based company centered around their product, an open source project collaboration software called OpenProject. I joined the company as a senior software developer.

### Responsibilities & Achievements

- Backend development (Ruby on Rails)
- Working in an international team
- Requirements engineering and sprint planning
- Team coordination and leading the Javascript / AngularJS development

## Zweitag GmbH

Ruby on Rails Consultancy

6/2010 – 10/2013

### Software Developer

As a software engineer I worked on a variety of projects, for example [so-schmeckts.de](#) or [comepeon.de](#). Technologies we worked with involved **Rails** as server-side technology as well as **JavaScript** and related frameworks like **AngularJS** on the client-side. Zweitag applies behaviour driven development using **Rspec**, **Capybara** and **Jasmine**. Data visualization were done with **D3.js** among others.

### Responsibilities & Achievements

- Backend and client-side development
- Technical concepts
- Customer communication
- Project coordination

## Institute of Mathematical Statistics

of the University of Münster

8/2010 – 10/2011

### Research assistant

As a research assistant at the institute for probability theory at the University of Münster I was mentor for seminars in probability theory and statistical modelling. Besides I lead the internship for applied statistics with R. I did research in the field of renewal theory exploring structural inheritance properties of Markov renewal processes. Meanwhile I worked as a software developer at Zweitag GmbH (see above).

## Fairix

Startup

10/2008 – 3/2010

### Software developer, CTO

Fairix is a startup I took part in as a software engineer while I was a student of mathematics. Fairix provided a platform to producers and merchants enabling them to offer products with additional ecological or social value, e.g. fair trade products. In an engineering team of two we developed a marketplace platform with Ruby on Rails. For that purpose I learnt Rails from scratch and I was leading the development in the later course of the project when the platform launched. The startup finally ran out of funds after two years.

**Bundesamt für Sicherheit  
in der Informationstechnik  
(BSI)**

8/2007 - 9/2007

**Research engineer (Pattern recognition)**

At my internship at the BSI I worked on research topics about malware classification. The internship lasted two months and together with my mentor I implemented a pattern recognition and a clustering approach to identify and distinguish malware by the kinds of exploits it used. The software had to be extremely performant and of linear complexity and was written in C.

**Institute of Mathematical  
Statistics**

of the University of Münster

10/2006 - 3/2008

**Tutor in linear algebra / functional analysis**

Tutorials and correction of student homework.

## INTERESTS

- Music and playing the guitar
- Machine Learning and artificial intelligence
- Sports
- Data visualization
- Reading
- Studying
- Longboarding
- Code design

## REFERENCES

Klaas Bollhöfer, former Lead Data Scientist at the unbelievable Machine Company GmbH (<http://www.unbelievable-machine.com>)

was my boss at the unbelievable Machine Company in Berlin.

Christoph Beck, Founder at bitcrowd GmbH (<http://bitcrowd.net/#team>)

was my boss during the development of Krautreporter.

Julian Schneider, CEO and Founder at Zweitag GmbH (<http://www.zweitag.de/de/team>)

was my boss at Zweitag GmbH in Münster.

Prof. Dr. Gerold Alsmeier (<http://wwwmath.uni-muenster.de/statistik/alsmeyer/>)

supervised my diploma thesis at University of Münster.