Daniel Kirsch

Mathematician. Data Products.

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I am excited about **data products** - from the **ML** through the **data infrastructure** up to the **UX**. I've worn many hats like data engineer, **data scientist**, data **product manager**, product analyst (even full-stack web developer). I have built and **led teams** building data products. I speak many programming languages - preferrably functional ones. Founder of a data for good non-profit. Creator of **detexify**. Math diploma from University of Münster.

📗 EDUCATION

10/2003 - 11/2010	**University of Münster** Diploma in Mathematics / Computer Science ∅ 1.5 Thesis (1.3): »**Detexify: Recognition of hand-drawn LaTeX symbols**« implemented as a **REST**ful webservice written in **Haskell** and **Ruby** using **machine learning** techniques. Samples are stored in **CouchDB**. See http://detexify.kirelabs.org.
1993 - 2002	**Gymnasium Laurentianum Warendorf** Abitur ∅ 2.0

⏱ EXPERIENCE

Billie
Fintech B2B Payments
http://www.billie.io
Billie is a breakthrough fintech startup that aims to create a new standard for business purchasing.

Director ML Platform — 4/2023 - today
Unifying the ML Landscape at Billie and establishing MLOps best practices.

Director of Data Science — 8/2020 - 4/2023
I've started as a hands on data scientist at Billie working on the risk engines and later shifted focus to ml-based internal products. In this position at the end the leads of the teams that were responsible for

- **credit scoring models**,
- **fraud prevention systems**,
- **machine-learning** based **internal products** used in company identification, payment systems
- **products analytics**

were reporting to me. My department had 14 full time employees plus working students. I was a driving force behind the **reshaping of analytical teams** to accomodate shifting company requirements as Billie matured.

Data Science Lead — 11/2019 - 7/2020

Data Scientist — 4/2018 - 10/2019

Idalab
Agency for Data Science
http://www.idalab.de

Data Scientist — 2/2016 - 2/2018

Mathematical Modelling, **Machine Learning**, **Artificial Intelligence**, **Optimization**
in a wide range of contexts like IoT, urban planning, finance, mobility, and many more using Python, Pandas, scikit-learn, keras, R and the tidyverse, caret, Shiny, Docker, Elasticsearch, Ansible, AWS (whatever is the right tool for the job).

I also
- **mentored** working students and younger colleagues
- have established **reproducible research** principles in our projects (codified in project templates)
- created an **infrastructure for my colleagues** to easily run analyses in pre-configured cloud environments
- created a Docker-based infrastructure to make our web based demonstrator apps available to our customers
- created scripts to ensure a consistent development setup across company laptops (which **codified our best practices**)

Freelancer

Mathematician — 4/2015 - 1/2016
- Reduction of food waste through **predictive modeling** of **time series** fo a german vending machine business with **scikit-learn**
- **Statistical consulting** and predictive modeling for in financial services (dunning processes) with **R**
- Supported development of a **machine learning** API for a Berlin-based parking app startup

smartB
Energy Management GmbH

Data Analyst & Visualization Expert — 8/2014 - 3/2015
- Translation of **business requirements** into suitable technical solutions
- Leading frontend development (**Project Management**, **Node**, **D3**, **Angular**) and building APIs and the data pipeline (**Python**, **Pandas**) for our smart meters and **NILM** results
- Drafting and implementing a DevOps process and best practices with **Ansible**

Hitfox Group
Incubator building companies and careers

Data Scientist — 6/2014 - 7/2014
- Prototyped a Big Data architecture in a Telco context
- Supported a new FinTech venture by prototyping the backend architecture and implementing the MVP with Rails

Zweitag GmbH
Ruby on Rails Consultancy

Software Developer — 8/2009 - 5/2014
I was involved in a variety of projects ranging from ecommerce sites and auction systems to business intelligence tools. I worked on the Rails backend as well as with frontend technologies such as Haml, SASS, client-side Javascript-frameworks and D3.js for data visualization. I helped establish TDD/BDD as a company best-practice, intoduced new technology such as Angular.js as a core Zweitag technology and supported and co-created the corporate mentorship program besides mentoring student workers and interns.

Visualization and Computer Graphics Research Group
of the University of Münster

Student worker: Voreen Volume Rendering Engine — 10/2008 - 3/2009
Worked on the medical imaging engine Voreen in C++ and OpenGL.

Databases and Information Systems Group
of the University of Münster

Student worker: Project Learnr — 11/2008 - 3/2009
Built a RESTful webservice for managing assets for an E-Learning platform using Ruby on Rails.

Institute of Mathematical Statistics
of the University of Münster

Tutor in stochastics / probability theory — 10/2007 - 10/2008
Tutorials and correction of student homework.

👥 VOLUNTARY EXPERIENCE

DSSG Berlin

12/2014 - present

Founder
Data Science for Social Good Berlin is a pro bono intermediary for data science. We help nonprofits move into the data age by running workshops and hackathons to help solve their data problems thus connecting them to industry data scientists. See http://dssg-berlin.org/ and https://blog.dssg-berlin.org/ for more details.

Open Knowledge Lab Münster
Code for Germany

2/2014 - 12/2014

Lab Lead
in a local community revolving around civic tech and open data. See http://codefor.de/muenster for more details.

Responsibilities
- Organize local meetups
- Stay in touch with local government and journalists
- Guide the participants towards common goals

Meetups and Conferences

Speaker
- Berlin Open Data Day 2017: Wie wir Einschulungsbereiche in Berlin optimieren
- Netzwerk Recherche Jahreskonferenz 2017: Machine Learning für Journalisten
- EKHN Symposium 2017: Data for Good Workshop
- labtogether 2016: Panelist on effective altruism and workshop on data for good
- data2day 2016: Natural language processing with recurrent neural networks
- Pydata 2016: Functional Programming in Python
- Strange Group Berlin: The Grammar of Graphics and R Metaprogramming
- Strange Group Berlin: Functional Javascript

Open Source

Occasional contributor
See http://github.com/kirel.

LG Brillux Münster

10/2011 - 5/2014

Track&Field Manager Young Athletics (Sportwart Nachwuchs)

Responsibilities
- Organisation and supervision of track&field competitions
- Creation and implementation of young athletics nurturing programs

TuS Hiltrup 1930 e.V.

8/2006 - 5/2014

Track&field coach
Coaching young athletes between ages 12 to 19 especially in vertical jumps and pole vault. Earned several qualifications and final places in the German youth nationals.

FLVW

8/2006

Track&field coaching license (C-Lizenz)

Heinrich-Tellen-Schule
in Warendorf

8/2002 - 6/2003

Community Service
at a school for special education.

🧪 INTERESTS

- Data Science for Social Good
- Machine learning
- FP (Haskell, Clojure, R, Elixir, …)
- Data visualization / data-driven journalism

- Behavioral Science
- Reading technical books
- Longboarding, wakeboarding, kitesurfing
- Pole vaulting

See http://kirelabs.org for personal projects.

💬 REFERENCES

Available upon request.