



# Jakub Wagner

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## ● ABOUT ME

I am graduated condensed matter physicist. I love to learn and work with data. I am interested in research, machine learning, data science and data visualizations.

I learned Python at high school and I have been using it ever since for more than 10 years already at university and at work as well. Currently, I am using mainly numerical libraries, but I have worked with libraries for machine learning, testing, backend and scientific libraries as well.

## ● WORK EXPERIENCE

01/11/2019 – CURRENT Brno, Czechia

### SENIOR DATA SCIENTIST KIWI.COM

In the Content team and later in the Search AI, I have been taking care of the whole data processing of pre-booking data after the raw data are collected and saved. This includes:

- Initial one-off analyses in Python
- Designing database schemas for data
- Writing SQL queries (mostly BigQuery, but PostgreSQL too)
- Scheduling jobs in Astronomer/Airflow/DBT so data are kept up to date
- Designing dashboards in Looker
- Setting up alerts and monitoring the data
- Interpreting the data
- Writing scripts and solving optimization problems with Python
- Improving and creating ML models

Data Analyst since Nov19 until Nov20, Data Scientist until Dec21, Senior Data Scientist until May23, afterwards Machine Learning Engineer

03/2020 – 06/2020 Brno, Czechia

### DATA VISUALIZATION LECTURER ENGETO

Occasional lectures about data visualizations and visualization tools:

- [Matplotlib](#)
- Types of graphs and when to use them
- How not to lie with graphs

01/10/2018 – 30/06/2019

### PH. D. RESEARCHER UNIVERSITÄT BASEL

Machine learning in quantum chemistry

- Kernel regression
- Neural networks

Mainly working with the [QM9 dataset](#)

Main projects:

- Comparing kernel regression with neural networks
- Improving molecular representation for kernel regression

Side project:

- Website for online tests for physical chemistry course

01/05/2019 – 30/06/2019

**ASSISTANT LECTURER** UNIVERSITY OF PARDUBICE

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Python course for graduates

- remote help with creating and evaluating exercises and homework

19/06/2017 – 30/09/2018

**PYTHON DEVELOPER** GATEMA

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Projects:

- Script for monitoring Mac hardware
- Testing web application using pytest
- Server backend development using flask

## ● EDUCATION AND TRAINING

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01/10/2018 – 30/06/2019 Basel, Switzerland

**DOCTOR OF PHILOSOPHY (PH. D.) - NOT FINISHED** Universität Basel

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Field of study: 'Physical chemistry'

Machine learning in quantum chemistry

- Kernel regression method
- Neural networks

Projects:

- Comparing kernel regression with neural networks
- Improving molecular representation for kernel regression

**Level in EQF** EQF level 8

09/2016 – 06/2018 Brno, Czechia

**MASTER (MGR.)** Masaryk University

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Faculty of sciences

Field of study: 'Condensed matter physics'

- topic of master thesis: '[Investigation of many-electron systems by configuration interaction method](#)'
- [record of study results](#)
- helping in '[Physical Laboratory 2](#)'

**Level in EQF** EQF level 7

10/2013 – 06/2016 Brno, Czechia

**BACHELOR (BC.)** Masaryk University

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Faculty of sciences

Field of study: 'Physics'

- topic of bachelor thesis: '[Simulation of probe measurement in plasma](#)'
- [record of study results](#)

**Field of study** Physics | **Level in EQF** EQF level 6 | **Thesis** Simulation of probe measurement in plasma'

09/2005 – 05/2013 Zastávka, Czechia

**MATURITY EXAM** Grammar school of T. G. Masaryk

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**Level in EQF** EQF level 4

## ● LANGUAGE SKILLS

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Mother tongue(s): **CZECH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	B2	C2	B2	B2	B2
<b>FRENCH</b>	B1	B1	A2	B1	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## ● DIGITAL SKILLS

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### Python

Python | NumPy | pandas | SciPy | Matplotlib | pytest | Flask

### Machine learning

scikit-learn | LightGBM | Keras

### SQL

SQL | Google BigQuery | PostgreSQL

### Other

Git | LaTeX | Microsoft Office | Looker

## ● ADDITIONAL INFORMATION

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### PUBLICATIONS

#### Publications

Study of "source sheath" problem in PIC/MC simulation: Spherical geometry. *Physics of Plasmas*, 2017, vol. 24, No 6, p. 063508-63514. ISSN 1070-664X. [doi:10.1063/1.4984990](https://doi.org/10.1063/1.4984990).

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### DRIVING LICENCE

Driving Licence: B

### PROJECTS

Projects - Kaggle

- Creating own [blog](#) - learning Javascript, React and D3.js

### HONOURS AND AWARDS

Honours and awards [Kaggle](#):

- "[Predicting Molecular Properties](#)" - [110. place](#) out of 2757 teams (silver medal, top 4%)

- "[Santa 2020 - The Candy Cane Contest](#)" - [55. place](#) out of 788 teams (bronze medal, top 7%)

- "[Santa 2021 - The Merry Movie Montage](#)" - [28. place](#) out of 847 teams (silver medal, top 3%)

Grammar school:

Logical olympics - finalist in national round

IQ test - 148 IQ

Keytyping competition - Second place with 2782 keystrokes per ten minutes

## **COURSES**

### **Courses**

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- [Advanced School on Modelling and Statistics for Biology, Biochemistry and Biosensing - Stochastic Processes and Stochastic Chains in Biology, Thermodynamics and Statistical Physics](#) -
- [Machine learning](#) on Coursera
- [fast.ai](#) course

## **INTERESTS**

### **Interests**

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Data visualization, Machine learning, Quantum chemistry, Monte Carlo method

## **HOBBIES**

### **Hobbies**

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Dancing, [reading](#), yoga, board games, [films](#)

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