

Václav Volhejn

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Experience

Research Intern — *ETH Zürich*

FEB–JUN 2021

Currently ongoing research project in the [Statistical Learning Group](#) lead by prof. Fanny Yang. Studying the role of depth in the generalization of neural networks.

Scientific Intern — *IST Austria*

FEB–APR 2020

In the [Machine Learning and Computer Vision Group](#) lead by prof. Christoph Lampert. Conducted an empirical study on why neural networks generalize well, even when they would be expected to overfit (the [double descent](#) phenomenon). Published at the [German Conference in Pattern Recognition 2020](#). Pre-print [available here](#).

Software Engineering Intern — *Jane Street, London*

JUL–SEP 2019

Development for quantitative trading firm. Worked on a tool for pricing calculations and then replaced a part of a system for managing transaction reporting. Used OCaml and SQL.

Data Scientist Intern — *Datamole, Prague*

JUL 2018 – JAN 2019

Worked on projects in various fields including reinforcement learning, time series prediction, anomaly detection and real-time object detection.

Software Engineering Intern — *Blue Vision Labs, London*

JUN–SEP 2017

Back-end development for a computer vision startup. BVL has been acquired by [Lyft Level 5](#).

Education

ETH Zürich

2020 – PRESENT

Studying the Master in **Computer Science** programme at ETH Zürich. Recipient of ESOP (Excellence Scholarship & Opportunity Programme) scholarship covering full study and living costs.

Charles University — *Prague*

2017 – 2020

Obtained Bachelor degree in **Computer Science**. Perfect grades and 233 ECTS-credits. Primarily took courses on theoretical CS, machine learning, and mathematics.

Skills & Abilities

Programming since an early age. Professionally worked with **Python, C++, OCaml, JavaScript, TypeScript**. Knowledge of **SQL, Haskell, Java, Go, Matlab, HTML, CSS**.

Knowledge of **Git, Jupyter Notebook, Docker, AWS, GCP, TensorFlow, Pandas**, among others.

Languages

Czech — native

English — fluent (C2 — CAE Grade A)

German — B1

Competitive programming

Wrote 10,000s of lines of C++ during algorithmic programming contests.

International Collegiate Programming Contest

56th place at **ICPC World Finals 2018** (only about 400 out of over 46 000 students advance to this round)

5th place at Central European Regional Contest (CERC) 2019, **advanced to ICPC World Finals 2020**. **9th place** at CERC 2018, **6th place** at CERC 2017.

Google Code Jam

143th place in 2018, **107th place** in 2016. Over 20 000 contestants participate each year.

Olympiads

Gold medal (15th place) at the International Olympiad in Informatics 2016

2nd place at the Czech Programming Olympiad (MO-P) 2017

1st place at the Czech Programming Olympiad (MO-P) 2016

Codeforces

In the **top 2%** contestants on Codeforces, the most popular competitive programming platform.

Organizing

Co-organizer of Czech programming competitions [MO-P](#) and [Kasiopea](#); preparing and testing contest tasks.

Projects

acres — *CNN-based barcode sharpening*
2018

A machine learning model for sharpening blurry images of barcodes. Based on convolutional neural networks, implemented in TensorFlow, trained on Google Cloud Platform.

Samorozvrh — *schedule optimization*

OCT 2017 – FEB 2018

A web app which helps students create their schedule by selecting the times of courses, using a constraint programming solver. [Publicly available](#) and updated occasionally.

Blekota — *neural network sound generation*

DEC 2016 – MAR 2017

Using a recurrent neural network, Blekota generates sound mimicking given input sounds. Implemented in pure NumPy, including manually computed derivatives and the RMSprop gradient descent algorithm.

Sup — *schedule-tracking app*

2014

An Android app that automatically tracks changes in students' schedules. Had over 600 total installs. No longer available from Play Store (not maintained).