Václav Volhejn

Prague, Czech Rep.
(+420) 607 837 205
vaclav@volhejn.eu
vvolhejn
My LinkedIn
1997

Experience

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.

Software Engineering Intern — *Jane Street, London*
JUL–SEP 2019

Development for quantitative trading firm. Worked on a tool used for pricing calculations and then on replacing 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 visual object detection.

Software Engineering Intern — *Blue Vision Labs, London*
JUN–SEP 2017

Back-end development for a computer vision startup. Worked in a team, but independently to a high degree. Primarily wrote TypeScript and Python, with occasional C++ and SQL. Was also involved in the hiring process.

Education

ETH Zürich
2020 – PRESENT

MSc in **computer science** at ETH Zürich. Recipient of ESOP (Excellence Scholarship & Opportunity Programme) scholarship covering full study and living costs.

Charles University — *Prague*
2017 – 2020

Studied **computer science** at the Faculty of Mathematics and Physics. Perfect grades and 233 ECTS-credits. Primarily interested in machine learning, theoretical CS and mathematics.

Skills & Abilities

Programming since an early age. Profesionally 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 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).