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Nationality: Czech



About

I am currently pursuing a master's degree in computer science, majoring in computer vision. I am part of the Visual Recognition Group of my university, my research has focused on document analysis, most recently weakly supervised learning for text detection and recognition. Apart from machine learning and mathematics, I am interested in psychology and neuroscience.

Work experience

Technion VISTA lab, Research Intern *September 2022 - October 2022*
Czech-Israeli Innovation Internships. I am hosted by prof. Alex Bronstein, working with Chaim Basking, on the topic of weakly and self-supervised learning for image segmentation.

IBM Research - Zurich, Student Researcher *July 2021 - December 2021*
AI Automation group, explainability. I am working on visual inspection for civil infrastructure.

Centre for Machine Perception, CTU Prague, Research Intern *2017 - now*
Visual Recognition Group, working under the supervision of prof. Jiří Matas.
I worked on document analysis projects - scene-text region detection and document layout analysis. Currently, I am working on weakly supervised learning for text detection and recognition.

Computer Vision Center, UAB, Research Intern *July 2019 - September 2019*
I worked on weakly supervised learning for text detection and recognition under the supervision of prof. Dimosthenis Karatzas.

Applifting, Ruby on Rails Backend Trainee developer *June 2016 - August 2016*
I worked on project Yunoia, a social network for the game industry.
Startup that develops iOS, web and Android applications.

Czechitas, Volunteer *2018 - now*
Teaching introductory level programming courses.
Non-profit organization that aims for higher tech literacy among women and youth.

MoRoUS, Organizer *2016 - now*
Correspondence seminar for high school students organised by a group of volunteers from the Faculty of Electrical Engineering, CTU Prague.

Education

Czech Technical University in Prague, Master of Science *September 2020 - now*
Faculty of Electrical Engineering, major in Computer Vision (1.17/4 WGPA).
Courses: Statistical Machine Learning, Digital Image, Advanced Algorithms, Evolutionary Optimization Algorithms, Neurophysiology, Computer Vision Methods, Geometry of Computer Vision and Graphics, Combinatorial Optimization, Theory of Algorithms

Czech Technical University in Prague, Bachelor of Science *September 2017 - 2020*
Faculty of Electrical Engineering, major in Informatics and Computer Science.
I graduated with honours (1.15/4 WGPA, rank 7), completing a minor degree in mathematics.
Bachelor thesis: [Learning with Weak Annotations for Text in the Wild Detection and Recognition](#)

CS: Solving Problems and other Games; Procedural Programming; Operating Systems; Database Systems; Parallel and Distributed Computing; Functional Programming; Recognition and Machine Learning, Object Design and Modelling

Math: Discrete Mathematics; Logic and Graphs; Linear Algebra; Mathematical Analysis I and II; Optimization; Information Theory and Coding; Advanced Analysis; Graph Theory; Numerical Analysis

Other: Philosophy

Universitat Politècnica de València,

September 2018 - January 2019

Erasmus+ at School of Informatics. I obtained the best possible score for *Algorithms* and 'Matrícula de Honor' (granted to up to 5% of the students provided they have obtained the 'Excellent' classification) for *Probability and Statistics*, *Introduction to AI*, and *Languages, Automata and Grammars*.

Courses: Language, automata and grammars; Introduction to Artificial Intelligence; Techniques, tools and applications of Artificial Intelligence, Probability and Statistics; Algorithms

Publications

Text Recognition - Real World Data and Where to find Them, Klára Janoušková, Lluís Gómez, Dimosthenis Karatzas, Jiří Matas; ICPR2020 ([arxiv](#), [youtube](#))

Languages

Native: **Czech**

Advanced: **English** (CAE certificate), **Spanish** (Título de Bachiller, Czech-Spanish high-school)

Intermediate: **French**

Elementary: **German**

Technical skills

Work experience: Python (OpenCV, scikit-learn, PyTorch), Ruby (Ruby on Rails)

School projects: Java (Android), C (++), Lisp, Haskell, Matlab, Maple, Mathematica, HTML/CSS

Achievements

IBM Great Minds 2021 winner

2021

<https://www.zurich.ibm.com/greatminds/> - a competition for 3 to 6-month internships at one of the IBM Research Labs.

Dean's award for an outstanding bachelor's thesis.

2020

100th percentile in the SCIO National Comparative Exams in Mathematics

2017

The best result in the cohort. Criterion in the acceptance processes of many Czech universities.

Open Informatics scholarship for talented girls

2017

A scholarship awarded to top-scoring students in the NCE in Mathematics.

Personal interests

When not reading, I enjoy sports (bouldering and windsurfing are my favourites lately) and showing a different perspective on the world through macro-photography.