

# Ondrej Skopek

## PERSONAL DATA

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## EDUCATION

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2017 – 2019  
(expected) Graduate Degree (MSc) in COMPUTER SCIENCE  
**Department of Computer Science, ETH Zürich**  
SPECIALIZATION: *General Computer Science*, focus: *Information Systems*  
GPA (1 to 6, higher is better, 4 is passing): 5.59 (currently)

2014 – 2017 Undergraduate Degree (BSc) in COMPUTER SCIENCE  
**Faculty of Mathematics and Physics, Charles University**, Prague  
SPECIALIZATION: *General Computer Science*, focus: *Computational Linguistics*  
THESIS: [Planning for Transportation Problems](#) + [TransportEditor](#)  
GPA (1 to 4, lower is better, 3 is passing): 1.36

## WORK EXPERIENCE

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JUN – SEP 2018 **Software Engineering Intern** at GOOGLE, Zürich, Switzerland  
Solving large-scale experimental Named Entity Recognition on an unlabeled enterprise dataset. Implemented a data conversion and processing pipeline, a state-of-the-art neural network model in TensorFlow with distributed training. Performed hyperparameter tuning and evaluation of the model.

JUL – SEP 2017 **Software Engineering Intern** at GOOGLE, Munich, Germany  
Ported and simplified the Voice Search feature on the New Tab Page of Desktop [Chrome](#) into Chromium's codebase, which helped enhance code quality and long-term maintenance. See [Chromium's repository](#) for all my contributions.

JUL – SEP 2016 **Software Engineering Intern** at MICROSOFT, Oslo, Norway  
Developed an internal engineering tool, which helped the team support upgrades of the Search module in SharePoint, in an effort to migrate towards Continuous Delivery.

JUL – SEP 2015 **Associate Software Engineer (Intern)** at RED HAT, Brno, Czech Republic  
Added automatic statistical evaluation of [OptaPlanner's](#) Benchmark results. Enables easier tuning of optimization algorithm parameters on practical combinatorial problems. See [OptaPlanner's repository](#) for all my contributions.

## SKILLS

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Python (2+ years) TensorFlow (2+ years) Java (8+ years) C++ (1 year) Bash (5+ years)

## LANGUAGES

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ENGLISH: Full professional proficiency TOEFL: 120/120 (3. 3. 2017) GERMAN: Basic working proficiency High-school diploma (B2)  
SLOVAK: Native proficiency CZECH: Basic working proficiency

## RESEARCH INTERESTS

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Machine Learning, Natural Language Understanding, Medical Imaging, Computer Vision, Generative Models, Reinforcement Learning

## PROJECTS

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- OCT – DEC 2018  
(expected) | **Learning to communicate concisely** ([Deep Learning](#), ETH Zürich)  
Learning two dependent agents for the board game Codenames using self-play and reinforcement learning. Given a set of positive and negative words, one agent gives a one word clue to the other agent, who then tries to guess the words meant by that clue. The aim is to learn to give clues and guess based on them, such that as many positive words as possible are guessed, and no negative words. Co-authored with Lukáš Jendele and Vignesh Ram Somnath.
- FEB – DEC 2018  
(expected) | **Generating cancerous features in mammograms using GANs**  
Creating a generative model which learns to transform cancerous mammography images into healthy ones and vice versa. Enables smarter balancing of classes (healthy/cancerous) in small datasets for learning better classifiers. Abstract accepted to [RSNA's annual meeting](#) as one of the Top 2 abstracts. Working towards submitting a related full paper to [MIDL 2019](#). Worked in a small team supervised by [Prof. Ender Konukoglu](#) (ETH Zürich).
- FEB – JUN 2018 | **Story Cloze Task** ([Natural Language Understanding](#), ETH Zürich)  
Choosing the correct short story ending sentence out of two candidate sentences ([Story Cloze Task](#)). Training data only contains the correct ending sentences. Achieved close to state of the art results at the time. Co-authored with Lukáš Jendele, Vasily Vitchevsky, and Michael Wiegner. [Paper](#). [GitHub repository](#).
- FEB – JUN 2018 | **Tweet Sentiment Analysis** ([Computational Intelligence Lab](#), ETH Zürich)  
Sentiment analysis of a large dataset of tweets using weakly supervised learning. The dataset was scraped and labeled automatically based on the presence of positive or negative emoji. We perform an extensive study of different models and provide a comparison. Co-authored with Lukáš Jendele, Larissa Laich, and Michael Wiegner. [Paper](#). [GitHub repository](#).
- FEB – MAY 2018 | **Eye Gaze Estimation** ([Machine Perception](#), ETH Zürich)  
Estimating the 3D angle of where a person is looking from single RGB images. Co-authored with Lukáš Jendele. [Paper](#).
- SEP – DEC 2017 | **Disease Stage Classification** ([Advanced Machine Learning](#), ETH Zürich)  
Three smaller projects as part of the Advanced ML course: age regression and degenerative disease stage classification from 3D brain MRI scans; and disease stage classification from electrocardiogram time-series data.
- NOV – DEC 2016 | **Native Language Identification** ([Deep Learning](#), Charles University)  
Identification of a TOEFL essay author's native language from the English essay text. Achieved  $\approx 75\%$  accuracy in the 11 native language classification problem using an end-to-end convolutional neural network (TOEFL11 dataset).

## AWARDS AND SCHOLARSHIPS

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- FEB 2018 | **Google Hash Code 2018** participant  
Our team placed 77<sup>th</sup> in the world out of about 4500 teams (3<sup>rd</sup> in Switzerland).
- SEP 2016 | **Merit scholarship** for the academic year 2015/2016, Charles University
- APR 2013 | **National High School Scientific Activity – 4<sup>th</sup> place National Round**  
TOPIC: [Recognition of cars and calculation of speed using computer vision](#)