

Pavel Veselý – Curriculum Vitae

Current position: Assistant Professor at Computer Science Institute of Charles University
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RESEARCH INTERESTS

Theoretical computer science and combinatorics, with particular focus on designing efficient algorithms and data structures, specifically:

- streaming algorithms (e.g., quantile estimation, geometric streams, packing and scheduling problems),
- online algorithms (e.g., buffer management, packing and scheduling problems), and
- approximation algorithms.

POSITIONS, EDUCATION, AND ACADEMIC DEGREES

September 2020 — present: Assistant Professor, Computer Science Institute of Charles University, Prague, Czech Republic. On leave from 19 September 2020 – 30 April 2021.

September 2018 — April 2021: Research Fellow, Department of Computer Science, University of Warwick. Adviser prof. Graham Cormode.

PhD. — 2018, Charles University, doctoral thesis *Online Algorithms for Packet Scheduling*. Supervisor prof. RNDr. Jiří Sgall, DrSc.

October 2014 — September 2018: PhD studies at Computer Science Institute of Charles University, Prague, Czech Republic. Supervisor prof. RNDr. Jiří Sgall, DrSc.

Mgr. — 2014, Charles University, master thesis *Online algorithms for variants of bin packing*. Supervisor prof. RNDr. Jiří Sgall, DrSc.

October 2012 — September 2014: master studies, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic.

Bc. — 2012, Charles University, bachelor thesis *Artificial intelligence in abstract 2-player games*. Supervisor RNDr. Tomáš Valla, Ph.D.

October 2010 — September 2012: bachelor studies, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic.

AWARDS

2022 ACM SIGMOD Research Highlight Award for the PODS 2021 paper *Relative Error Streaming Quantiles*.

Best Paper Award at the 40th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2021) for paper *Relative Error Streaming Quantiles*.

Faculty Post-Doctoral Research Prize at the University of Warwick's Faculty of Science, Engineering and Medicine (SEM) for paper *A Tight Lower Bound for Comparison-Based Quantile Summaries*.

Tutorial for *Linear algebra I* in winter semester 2016/2017 was awarded by dean as one the best tutorials in the student rating at the Faculty of Mathematics and Physics, Charles University.

Paper *Online Chromatic Number is PSPACE-Complete* received the **Best Student Paper Award** at the 27th International Workshop on Combinatorial Algorithms (IWOCOA 2016).

Thesis *Artificial intelligence in abstract 2-player games* obtained the **Dean's award for the best bachelor thesis** at the Faculty of Mathematics and Physics, Charles University in academic year 2011/2012.

GRANT PROJECTS

Principal Investigator

Effective scheduling in overloaded systems, 2017 – 2018. Grant 634217 of the Charles University Grant Agency. Principal investigator Mgr. Pavel Veselý. Supervisor prof. RNDr. Jiří Sgall, DrSc.

Team Member (since 2018)

Efficient and Realistic Models for Computational Social Choice, 2022 – present. Grant 22-22997S of the Czech Science Foundation (GAČR). Principal investigator Martin Koutecký.

EPAC: Efficient approximation algorithms and circuit complexity, 2021 – present. Grant 19-27871X of the Czech Science Foundation (GAČR). Principal investigators Michal Koucký and Pavel Hrubeš.

Center for Foundations of Modern Computer Science, 2018 – present. Charles University research center in the program UNCE. Principal investigator prof. RNDr. Jiří Sgall, DrSc.

Small Summaries for Big Data, 2018 – 2021. European Research Council grant ERC-2014-CoG 647557. Principal investigator prof. Graham Cormode.

TEACHING

Teaching assistant (seminar tutor) for the following courses at the Faculty of Mathematics and Physics, Charles University:

- *Mathematical skills* (winter semester 21/22),
- *Approximation and online algorithms* (summer semester 17/18, together with Martin Böhm),
- *Introduction to approximation and randomized algorithms* (winter semester 17/18),
- *Optimization methods* (summer semesters 15/16 and 16/17),
- *Linear algebra I* (winter semester 16/17 and 21/22),
- *Algorithms and data structures II* (winter semesters 14/15 and 15/16),
- *Algorithms and data structures I* (summer semesters 12/13 and 14/15),

2019: Seminar tutor for *Discrete Mathematics and its Applications 2* (term 2 of 18/19) at University of Warwick.

2016: Mentoring computer science students enrolled in English programs at the Faculty of Mathematics and Physics.

Supervisor of the bachelor thesis *Artificial intelligence for Mariáš* by Petra Kaštánková. The thesis was successfully defended in 2016.

OTHER ACADEMIC ACTIVITIES

Collaboration with Splunk Inc., a US-based company that focuses on processing machine-generated big data, on algorithms for estimating quantiles in data streams that resulted in a joint publication at KDD 2021.

Collaboration with Apache DataSketches, an open-source software library of stochastic streaming algorithms, on implementing the algorithm for relative-error streaming quantiles from the PODS 2021 paper.

Program committee member of the 18th Workshop on Approximation and Online Algorithms (WAOA 2020).