TUUKKA KORHONEN

Curriculum Vitae – January 2020

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EDUCATION

University of Helsinki 9/2015 –

- Bachelor of Science, computer science, 9/2019. Minor in mathematics.
- Expected MSc in computer science in 5/2020.

PUBLICATIONS

- **Finding Most Compatible Phylogenetic Trees over Multi-State Characters.**
  Tuukka Korhonen and Matti Järvisalo. Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI). 2020. (to appear) https://tuukkakorhonen.com/papers/kj.aaai20.pdf
- **Enumerating Potential Maximal Cliques via SAT and ASP.**
  Tuukka Korhonen, Jeremias Berg and Matti Järvisalo. Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI). 2019. https://doi.org/10.24963/ijcai.2019/156
- **Solving Graph Problems via Potential Maximal Cliques: An Experimental Evaluation of the Bouchitté–Todinca Algorithm.**
  Tuukka Korhonen, Jeremias Berg and Matti Järvisalo. ACM Journal of Experimental Algorithmics, Volume 24 Issue 1. 2019. https://dl.acm.org/doi/10.1145/3301297
- **MaxPre: An Extended MaxSAT Preprocessor.**
  Tuukka Korhonen, Jeremias Berg, Paul Saikko and Matti Järvisalo. Proceedings of the 20th International Conference on Theory and Applications of Satisfiability Testing (SAT). 2017. https://doi.org/10.1007/978-3-319-66263-3_28

PREPRINTS

- **Potential Maximal Cliques Parameterized by Edge Clique Cover.**
  Tuukka Korhonen. 2019. https://arxiv.org/abs/1912.10989

WORK EXPERIENCE

University of Helsinki 6/2016–6/2017, 10/2017–5/2018, 2/2019–
Research Assistant *Helsinki*

- Worked in the *Constraint Reasoning and Optimization* research group, focused on designing and implementing practical tools for exact solving of NP-hard problems. My two main projects, which are both implemented in C++, published in peer-reviewed articles and available in GitHub were:
  - MaxSAT preprocessor *MaxPre*.
  - *Triangulator*, a practical implementation of the Bouchitté–Todinca Algorithm.

Google 6/2018 – 12/2018
Software Engineering Intern *Zurich*

- Worked in Google Shopping. Designed and implemented big data pipelines to better integrate web index data with Google Shopping and Google Shopping data with other Google products.
- Wrote mostly C++ code, but also used a lot of SQL.

Jane Street 7/2017 – 9/2017
Software Developer Intern *London*

· Software development in OCaml. I worked on three different projects, including developing the Jbuilder build system for OCaml and integrating compression algorithms to a data transfer library.

University of Helsinki 2015–2017
Teaching Assistant *Helsinki*

· Prepared assignments and explained solutions in the *Competitive Programming* course in fall 2015, 2016 and 2017 and in the *Algorithms for Problem Solving* course in spring 2017.

Finnish Olympiad in Informatics 2015–2018
Programming contest organizer/coach *Helsinki*

· Organized programming contests and training camps for high school students. Participated as a deputy leader in IOI 2016 and BOI 2017, as a team leader in BOI 2018, as a coach in ACM-ICPC NWERC 2017 and World Finals 2018.

COMPETITIONS

· PACE 2017, minimum fill-in track – 2nd place

· ACM-ICPC World Finals – 14th place in 2016 and 13th place in 2017

· ACM-ICPC Northwestern Europe Regional Contest – 1st place in 2015 and 2nd place in 2016

· NCPC – 2nd place in 2015 and 1st place in 2016

· International Olympiad in Informatics (IOI) 2015 – Bronze medal (101st place)

· Baltic Olympiad in Informatics (BOI) 2015 – Silver medal (9th place)

· Datatähti 2015 (Finnish Olympiad in Informatics) – 1st place

· Nordic Mathematical Contest 2015 – 18th place

· Finnish Mathematical Olympiad 2015 – 7th place

· I was in the Finland's team in the International Mathematical Olympiad (IMO) 2015

· Google Hashcode 2017 – 17th place

· Deadline24 – 13th place in 2016 and 11th place in 2017

· Peak rating of 2721 in Codeforces (top 1%)

· Peak rating of 2499 in Topcoder (top 5%)