

Curriculum Vitæ

Personal Information

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Summary of Education

- Sep 2015 – May 2020 **Department of Mathematical Sciences** Göteborgs Universitet – Bachelor's and Master's Degree in Mathematics
- Sep 2020 – Sep 2025 **Department of Mathematics** Uppsala University – PhD in Mathematics
- Thinking about the community detection problem in graphs, from combinatorial and algorithmic perspectives.
 - Parallel to these interests, also some thinking about more general machine learning methods and practice. The PhD position is part of a larger AI/ML research funding initiative across many universities in Sweden, giving access to courses, reading groups, and the like in the area.

Teaching experience

- 2023-2025 *Lecturer in Combinatorics*
- Redesigned the course, wrote new course materials, and held all lectures and examinations for the course.
- 2024 *Lecturer in Graph Theory*
- Reworked course materials, held all lectures and examinations for the course.
- 2023-2025 *Supervised two bachelor's theses*
- Co-supervisor for one thesis on machine learning applied to sport data, supervisor for one thesis on structural and algorithmic graph theory.

Publications

- *Universal lower bound for community structure of sparse graphs*, joint with F. Skerman and N. Kamčev. Under review. <https://arxiv.org/abs/2307.07271>
- *Classification of overlapping community detection methods in hypergraphs*. Solo paper, under review. <https://arxiv.org/abs/2404.03332>
- *Approximating temporal modularity on graphs of small underlying treewidth*, joint with several co-authors. Best Student Paper at ALGOWIN 2025. <https://arxiv.org/abs/2507.17541>

Website

For more detailed information on the above, and a list of projects and personal interests, see my portfolio site:



<https://vagdur.github.io/>