Simon Weber

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Education

Doctoral Studies, *ETH Zurich.* **2021–**
Advised by Bernd Gärtner. Focus on sink-finding in Unique Sink Orientations.

MSc ETH CS, *ETH Zurich, GPA 5.80 (graduated with* **2018–2020**
distinction).
Master of Science ETH in Computer Science, Specialization in Theoretical Computer Science

BSc ETH CS, *ETH Zurich, GPA 5.77 (graduated with* **2015–2018**
distinction).
Bachelor of Science ETH in Computer Science

Experience

Master thesis

Title: *Unique Sink Orientations: Constructions and Random Facet*

Supervisor: Prof. Dr. Bernd Gärtner

Description: Analysis of an existing algorithm for sink-finding in Unique Sink Orientations, using existing as well as novel constructions of problem instances.

Bachelor thesis

Title: *Accelerating Graph Processing Using Lossy Compression*

Supervisors: Maciej Besta, Prof. Dr. Torsten Hoefler

Description: Creation and experimental analysis of lossy graph compression (sparsification) heuristics to accelerate processing of large graphs.

Teaching

Teaching Assistant, *ETH Zurich.* **2017–2019**
Tutoring for the lecture "Theoretical Computer Science" for three terms.

Interests

Complexity theory: computational hardness, models of computation

Algorithms: randomized algorithms, approximation algorithms, streaming algorithms, algorithm analysis

Combinatorics: extremal combinatorics, Ramsey theory, probabilistic methods, graph theory

Formal methods: program verification, analysis of security protocols, formal cryptography

Languages

German: Native language

English: Fluent

Publications

Besta, M., **Weber, S.**, Gianinazzi, L., Gerstenberger, R., Ivanov, A., Oltchik, Y., and Hoefler, T. Slim Graph: Practical Lossy Graph Compression for Approximate Graph Processing, Storage, and Analytics. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (SC19).* (acceptance rate: 22.7%) **Best Paper Finalist, Best Student Paper Finalist**.