

Sebastian Berndt

Research Areas: steganography, cryptography, approximation algorithms, FPT algorithms

Publications: AAI, APPROX, IH&MMSEC, ISAAC, LATA ([Link](#))

Teaching: Algorithm Design, IT-Security, Coding Theory ([Link](#))

Education: BSc, MSc, Ph. D. Student ([Link](#))

Education

2010 BSc in Computer Science, University of Kiel
2012 MSc in Computer Science, University of Kiel
2012– Research Associate, Ph. D. Student, University of Lübeck

Publications

Rankings are from the 2014 edition of the Computing Research and Education Association of Australasia Conference Ratings Exercise (CORE 2014), ranging from A* (exceptional) to C (sound and satisfactory).

2015 Berndt, Sebastian and Jansen, Klaus and Klein, Kim-Manuel (2015),
"Fully Dynamic Bin Packing Revisited", *APPROX/RANDOM 2015*, **Rating: A**
2016a Berndt, Sebastian and Reischuk, Rüdiger (2016),
"Steganography Based on Pattern Languages", *LATA 2016*, **Rating: C**
2016b Berndt, Sebastian and Liśkiewicz, Maciej (2016),
"Provable Secure Universal Steganography of Optimal Rate", *ACM IH&MMSEC 2016*, Acceptance Rate: 34% (21/61)
Awarded Best Student Paper
2016c Berndt, Sebastian and Liśkiewicz, Maciej (2016),
"Hard Communication Channels for Steganography", *ISAAC 2016*, **Rating: A**
2017 Berndt, Sebastian and Liśkiewicz, Maciej and Lutter, Matthias and Reischuk, Rüdiger (2017),
"Learning Residual Alternating Automata", *AAAI 2017*, **Rating: A***

Talks

2015a "Learnability does not imply Secure Steganography",
Nordic Complexity Workshop
2015b "Fully Dynamic Bin Packing Revisited",
[Approximation Algorithms and Parameterized Complexity](#)
2016a "Berechnung von Baumzerlegungen mit SAT-Solvern",
University of Kiel

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Teaching

2012	Exercises on "Algorithm Design"
2012	Exercises on "Introduction to IT Security and Reliability"
2013	Exercises on "Coding and Security"
2013	Exercises on "Algorithm Design"
2013	Exercises on "Introduction to IT Security and Reliability"
2014	Exercises on "Coding and Security"
2014	Exercises on "Algorithm Design"
2014	Exercises on "Introduction to IT Security and Reliability"
2015	Exercises on "Coding and Security"
2015	Exercises on "Algorithm Design"
2015	Lectures and Exercises on "Introduction to IT Security and Reliability"
2015	Lectures on "Presentation and Documentation"
2016	Exercises on "Coding and Security"
2016	Exercises on "Algorithm Design"
2016	Lectures and Exercises on "Introduction to IT Security and Reliability"

Theses

I was involved in the following theses, but was not formally one of the supervisors.

2015	Bachelor Thesis on "Lower Bounds in Online Bin Packing Models"
2015	Bachelor Thesis on "Secure Multiparty Computations in Bitcoin"
2015	Bachelor Thesis on "Development and Examination of a Huffman-coding based Stegosystem"

Extracurricular Activities

2012–2015	Received the " <i>Teaching Certificate I</i> " by taking more than 10 courses in e.g. team leading, presentation techniques and others (Link)
2016	Organizing Committee of <i>Creative Mathematical Sciences Communication</i> (Link)
2016	Taught a week-long summer course on algorithms to a group of pupils from age 14 to 17 based on <i>Computer Science Unplugged</i> (Link)
2016	Developed the tool <i>Jdrasil</i> to compute tree decompositions which got the third place in the tracks »sequential exact solver« and »parallel heuristic solver« in the first <i>PACE</i> challenge on parameterized algorithms (Software , Challenge)

Awards

2016	Best Student Paper Award for "Provable Secure Universal Steganography of Optimal Rate"
2016	Third place in the tracks »sequential exact solver« and »parallel heuristic solver« in the first <i>PACE</i> challenge on parameterized algorithms

Interests

Kayaking, Improvisational Theatre, Hiking

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