Curriculum Vitae

Arne Leitert

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Department of Computer Science
Central Washington University
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Education

Doctorate in Computer Science 2017
Kent State University, USA

Diplom* **in Computer Science** 2012
University of Rostock, Germany

Academic Experience

Assistant Professor Since 2017
Dep. of Computer Science, *Central Washington University*

Graduate Teaching Assistant 2013 – 2017
Dep. of Computer Science, *Kent State University*

Student Assistant 2009 – 2011
Institute of Computer Science, *University of Rostock*

Non-Academic Experience

Software Development and Technical Support Since 2011
Ostsee Truck Wash, Kavelstorf, Germany

Partner Since 2009
Dr. Leitert & Partner GbR

Software Engineer Intern Summer 2014
GraphSQL, Inc., Kent

Internship Summer 2010
EADS RST Rostock System-Technik GmbH

Military Service 2005 – 2006
in the German Air Force

Research Interests

Design and analysis of algorithms; approximation algorithms and hardness analysis; algorithmic graph and hypergraph theory with focus on structured graphs related to tree-decompositions; distributed graph algorithms; algorithms for huge scale networks

References

Dr. Feodor F. Dragan – dragan@cs.kent.edu
Professor at *Kent State University*, Dissertation Advisor

Dr. Ekkehard Köhler – ekkehard.koehler@b-tu.de
Professor at *Brandenburg University of Technology*, Germany

Dr. Michael Harrod – michael.harrod@cwu.edu
Associate Professor and Associate Dean at *Central Washington University*

* Classical German university degree, comparable to Master of Science.

Publications

Under Review

Injective Hulls of Various Graph Classes
H. Guarnera, F. Dragan, **A. Leitert**. Submitted to journal. Pre-print: *arXiv* 2007.14377.

Journal Papers

Equivalence between Pathbreadth and Strong Pathbreadth
G. Ducoffe, **A. Leitert**. *Discrete Applied Mathematics* 262, 185 – 188, 2019.

Parameterized Approximation Algorithms for some Location Problems in Graphs
A. Leitert, F. Dragan. *Theoretical Computer Science* 755, 48 – 64, 2019.

On the Minimum Eccentricity Shortest Path Problem
F. Dragan, **A. Leitert**. *Theoretical Computer Science* 694, 66 – 78, 2017.

3-Colouring for Dually Chordal Graphs and Generalisations
A. Leitert. *Information Processing Letters* 128, 21 – 26, 2017.

Line-Distortion, Bandwidth and Path-Length of a Graph
F. Dragan, E. Köhler, **A. Leitert**. *Algorithmica* 77 (3), 686 – 713, 2017.

Minimum Eccentricity Shortest Paths in some Structured Graph Classes
F. Dragan, **A. Leitert**. *Journal of Graph Algorithms and Applications* 20 (2), 299 – 322, 2016.

Polynomial-time Algorithms for Weighted Efficient Domination Problems in AT-free Graphs and Dually Chordal Graphs
A. Brandstädt, P. Fičur, **A. Leitert**, M. Milanič. *Information Processing Letters* 115 (2), 256 – 262, 2015.

Conference Papers

Parameterized Approximation Algorithms for some Location Problems in Graphs
A. Leitert, F. Dragan. COCOA 2017, *Lecture Notes in Computer Science* 10628, 348 – 361, 2017.

On Strong Tree-Breadth
A. Leitert, F. Dragan. COCOA 2016, *Lecture Notes in Computer Science* 10043, 62 – 76, 2016.

Minimum Eccentricity Shortest Paths in some Structured Graph Classes
F. Dragan, **A. Leitert**. WG 2015, *Lecture Notes in Computer Science* 9224, 189 – 202, 2016.

On the Minimum Eccentricity Shortest Path Problem
F. Dragan, **A. Leitert**. WADS 2015, *Lecture Notes in Computer Science* 9214, 276 – 288, 2015.

Line-Distortion, Bandwidth and Path-Length of a Graph
F. Dragan, E. Köhler, **A. Leitert**. SWAT 2014, *Lecture Notes in Computer Science* 8503, 146 – 157, 2014.

Efficient Dominating and Edge Dominating Sets for Graphs and Hypergraphs
A. Brandstädt, **A. Leitert**, D. Rautenbach. ISAAC 2012, *Lecture Notes in Computer Science* 7676, 267 – 277, 2012.

Theses

Tree-Breadth of Graphs with Variants and Applications
Dissertation, Kent State University, Department of Computer Science, August 2017.

Das Dominating Induced Matching Problem für azyklische Hypergraphen
Diploma Thesis, University of Rostock, Department of Computer Science, April 2012, in German.

Graphenbasierte Überprüfung unvollständiger Lösungen in Modellierungsaufgaben
Study Thesis, University of Rostock, Department of Computer Science, July 2011, in German.

Colloquiums, Conferences, and other Presentations

Computing the Union Join Graph and Subset Graph for Subclasses of Acyclic Hypergraphs in Truly Subquadratic Time
12th Annual Meeting of the Asian Association for Algorithms and Computation.
April 19 – 21, 2019, Seoul, South Korea.

Parameterized Approximation Algorithms for some Location Problems in Graphs
73. *Theorietag*, Workshop on Algorithms and Complexity, May 18 – 19, 2017, Hamburg, Germany;
11th Annual International Conference on Combinatorial Optimization and Applications (COCOA 2017), December 16 – 18, 2017, Shanghai, China.

Tree-Breadth of Graphs with Variants and Applications
Presentation about dissertation results and future research plans.
Spring 2017, *Bradley University*, *California State Polytechnic University, Pomona*, *Central Washington University*, *Kent State University*, *State University of New York at Oswego*, *University of Alaska Fairbanks*.

On Strong Tree-Breadth
10th Annual International Conference on Combinatorial Optimization and Applications (COCOA 2016)
December 16 – 18, 2016, Hong Kong, China.

On the Minimum Eccentricity Shortest Path Problem
14th International Symposium on Algorithms and Data Structures (WADS 2015)
August 5 – 7, 2015, Victoria, Canada.

The Minimum Eccentricity Shortest Path Problem in some Structured Graph Classes
41st International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2015)
June 17-19, 2015, Munich, Germany; given by F. Dragan.

Recent Research Results on Line-Distortion and Minimum Eccentricity Shortest Path
Guest presentation at research seminar on theoretical computer science
July 2014, *University of Rostock*, Germany.

Line-Distortion, Bandwidth and Path-Length of a Graph
14th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT 2014)
July 2 – 4 2014, Copenhagen, Denmark.

Efficient Dominating and Edge Dominating Sets for Graphs and Hypergraphs
The 23rd International Symposium on Algorithms and Computation (ISAAC 2012)
December 19 – 21, 2012, Taipei, Taiwan.

Institutional and Professional Activities

Faculty Senator Since Fall 2018
Representing the *Dep. of Computer Science* at the Faculty Senate, *Central Washington University*.

Alternate Faculty Senator Fall 2017 – Spring 2018
Representing the *Dep. of Computer Science* at the Faculty Senate, *Central Washington University*.

Committee Member

- Senate Curriculum Committee, *Central Washington University* Since Winter 2020
- Ad Hoc Committee on Peer Publications, *College of the Sciences*, *Central Washington University* Spring 2019
- Personal Committee (evaluating non-tenure-track faculty for promotion), *Dep. of Computer Science*, *Central Washington University* Spring 2017

Reviewing Journal and Conference Papers

- *Discrete Applied Mathematics*
- *Discussiones Mathematicae Graph Theory*
- *Informatica*
- *Information Processing Letters*
- *Journal of Discrete Algorithms*
- *SIAM Journal on Discrete Mathematics*
- *Theoretical Computer Science*

- *16th Algorithms and Data Structures Symposium (WADS)* 2019
- *X Latin and American Algorithms, Graphs and Optimization Symposium (LAGOS)* 2019
- *44th Workshop on Graph-Theoretic Concepts in Computer Science (WG)* 2018

Development of Classes

- ***Moving Classes Online.***
  Transformed various courses to full online classes.
- ***Introduction to Graph Algorithms.***
  Newly created elective course for senior undergraduates and master students.

Advising and Supervising

- Thesis Advisor
  - Rachel Walker (Bachelor)
- Advisor for undergraduate research projects, *CWU*.
- Supervising student workers and teaching assistants for various classes, *KSU* and *CWU*.
- Academic advising for students in the computer science major, *CWU*.
- Faculty advisor for student lead *Game Development Club*, *CWU*.

Awards, Funding, and other Support

Faculty Early Career Grant Academic Year 2019/20
Reassignment from teaching to support pre-tenure faculty to produce a peer-reviewed journal or conference paper. Provided by the *College of the Sciences*, *Central Washington University*.

Faculty Travel Award Spring 2019
$300 to present resent research results at AAAC meeting 2019, Seoul, South Korea. Provided by CWU *School of Graduate Studies and Research*.

University Fellowship Academic Year 2016/17
Annual award from *Kent State University* to advanced doctoral students to recognize excellent scholarship and research potential. Recipients receive a doctoral level service appointment for Fall semester and a non-service University Fellowship appointment for Spring semester.

Graduate Assistantship Spring 2013 – Spring 2017
Department of Computer Science, Kent State University.

Departmental Travel Grant Fall 2016
$600 to present the paper *On Strong Tree-Breadth* at COCOA 2016, Hong Kong, China.

International Travel Award Fall 2016
$500 to present the paper *On Strong Tree-Breadth* at COCOA 2016, Hong Kong, China.

Departmental Travel Grant Summer 2015
$600 to present the paper *On the Minimum Eccentricity Shortest Path Problem* at WADS 2015, Victoria, Canada.

DAAD* Scholarships for Conferences and Lecture Journeys December 2012
1486 € to present the paper *Efficient Dominating and Edge Dominating Sets for Graphs and Hypergraphs* at ISAAC 2012, Taipei, Taiwan.

* German Academic Exchange Service

Teaching

Institution	Number	Level	Semester or Quarter	Median Evaluation*
Advanced Data Structures and File Processing				
Central Washington University	CS 302	Bachelor	Winter 18, Fall 18, Winter 19, Fall 19, Winter 20, Spring 20, Winter 21, Spring 21	4.21
Algorithm Analysis				
Central Washington University	CS 427	Bachelor	Fall 18, Spring 20, Fall 20	4.13
Data Structures				
Central Washington University	CS 301	Bachelor	Fall 18, Fall 20	4.38
Database Management Systems				
Central Washington University	CS 420	Bachelor	Spring 18, Spring 19, Fall 19, Spring 20, Fall 20, Spring 21	4.31
Design and Analysis of Algorithms				
Kent State University	CS 46101	Bachelor	Fall 15, Fall 16, Summer 17	4.29
Kent State University	CS 56101	Master	Fall 15, Fall 16, Summer 17	4.46
Discrete Structures				
Kent State University	CS 23022	Bachelor	Fall 13, Spring 14, Fall 14, Spring 15, Summer 15, Summer 16	4.32
Introduction to Graph Algorithms				
Kent State University	CS 49995	Bachelor	Spring 16	4.54
Kent State University	CS 59995	Master	Spring 16	4.37
Central Washington University	CS 428	Bachelor	Spring 18, Spring 19, Winter 20, Winter 21	4.47
Principles of Programming Languages I				
Central Washington University	CS 361	Bachelor	Fall 17, Fall 18	4.16
Principles of Programming Languages II				
Central Washington University	CS 362	Bachelor	Winter 18, Winter 19, Winter 20, Winter 21, Spring 21	4.50
Theory of Computation				
Central Washington University	CS 496	Bachelor	Fall 19	—

* Out of 5.