

STEFFEN MAASS

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Education

Georgia Institute of Technology	Ph.D. Candidate in Computer Science Atlanta, GA Advisor: Dr. Taesoo Kim Thesis: <i>Systems Abstractions for Big Data Processing on a Single Machine</i>	01/2015 – <i>current</i> GPA: 4.0 / 4.0
Georgia Institute of Technology	M.Sc. in Computer Science Atlanta, GA Specialization: Networking	08/2013 – 12/2014 GPA: 4.0 / 4.0
University of Stuttgart	M.Sc. in Computer Science Stuttgart, Germany Specializations: <i>Database Systems</i> and <i>Distributed Systems</i> Thesis: <i>Distributed Graph Processing and Partitioning for Spatiotemporal Queries in the Context of Camera Networks</i>	10/2012 – 08/2015 GPA: 1.1 / 1.0 (<i>excellent with distinction</i>)
University of Stuttgart	B.Sc. in Computer Science Stuttgart, Germany Thesis: <i>Efficient Strategies for Task Distribution for Public Sensing</i>	10/2009 – 09/2012 GPA: 1.5 / 1.0 (<i>excellent</i>)

Research Interests

Distributed Systems, Networking, Operating Systems, and Graph Processing.

Current Research

I am interested in big-data and especially graph-analytics workloads, for static and temporally evolving datasets [EuroSys'17, EuroDW'18] and am working on KALEIDOSCOPE, a graph-processing engine for evolving graphs.

Publications

- SOLROS: A Data-Centric Operating System Architecture for Heterogeneous Computing**
Changwoo Min, Woon-Hak Kang, Mohan Kumar, Sanidhya Kashyap, **Steffen Maass**, Heeseung Jo, and Taesoo Kim.
EuroSys'18, Porto, Portugal, April, 2018.
Acceptance rate: 16.4%
- LATR: Lazy Translation Coherence**
Mohan Kumar*, **Steffen Maass***, Sanidhya Kashyap, Ján Veselý, Zi Yan, Taesoo Kim, Abhishek Bhattacharjee, and Tushar Krishna.
ASPLOS'18, Williamsburg, VA, USA, March, 2018.
*** marks joint first authors.**
Acceptance rate: 17.5%

3. | **MOSAIC: Processing a Trillion-Edge Graph on a Single Machine.**
Steffen Maass, Changwoo Min, Sanidhya Kashyap, Woon-Hak Kang, Mohan Kumar, and Taesoo Kim.
EuroSys'17, Belgrade, Serbia, April, 2017.
Best Student Paper Award
Acceptance rate: 20.5%
Coverage: The Morning Paper, TheNextPlatform, Hacker News, HN II, Georgia Tech News I, GT News II
Code: <https://github.com/sslabs-gatech/mosaic/>
4. | **Understanding Manycore Scalability of File Systems**
Changwoo Min, Sanidhya Kashyap, **Steffen Maass**, Woon-Hak Kang, and Taesoo Kim.
ATC'16, Denver, CO, June, 2016.
Acceptance rate: 19.0%
Code: <https://github.com/sslabs-gatech/fxmark/>

Workshops

1. | **KALEIDOSCOPE: Graph Analytics on Evolving Graphs.**
Steffen Maass and Taesoo Kim.
In the 12th EuroSys Doctoral Workshop Workshop (EuroDW), Porto, Portugal, April, 2018.

Posters

1. | **MOSAIC: Processing a Trillion-Edge Graph on a Single Machine.**
Steffen Maass, Changwoo Min, Sanidhya Kashyap, Woon-Hak Kang, Mohan Kumar, and Taesoo Kim.
In the Workshop on Optimization & Big Data (OBD'18), KAUST, Saudi Arabia, Feb, 2018.
Best Contribution Award
2. | **DISTCOZ: Tell Me What to Optimize in My Distributed Application**
Steffen Maass, Mohan Kumar, and Taesoo Kim.
NSDI'17 - Poster, Boston, MA, April, 2017.
3. | **Network Function Fault Isolation in a Single Address Space**
Mohan Kumar, **Steffen Maass**, and Taesoo Kim.
NSDI'17 - Poster, Boston, MA, April, 2017.

Awards

OBD'18	Best Contribution Award	02/2018
Eurosys'17	Best Student Paper Award	04/2017

Travel Grants

1. | **14th USENIX Symposium on Networked Systems Design and Implementation**
Boston, MA

03/2017

Invited Talks and Presentations

EuroDW'18	KALEIDOSCOPE: Graph Analytics on Evolving Graphs	Porto, 04/2018
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ASPLOS'18 - Lightning Talk	LATR: Lazy Translation Coherence	Williamsburg, 03/2018
OBD'18 - Spotlight Talk	MOSAIC: Processing a Trillion-Edge Graph on a Single Machine	KAUST, 02/2018
Intel ISTC	MOSAIC: Processing a Trillion-Edge Graph on a Single Machine	Atlanta, 06/2017
EuroSys'17	MOSAIC: Processing a Trillion-Edge Graph on a Single Machine	Belgrade, 04/2017

Work Experience

Ph.D. Software Engineering Intern	Google, Sunnyvale, CA Intern in the cloud networking team, working on Google's load balancing platform.	05/2018 – 08/2018
Ph.D. Software Engineering Intern	Google, Mountain View, CA Intern in the Platforms team, working on performance diagnosis of Google's next-gen SDN platform.	05/2016 – 08/2016
Ph.D. Software Engineering Intern	Google, New York, NY Working on the control plane of the load-balancing platform of Google's front-end serving infrastructure.	05/2015 – 08/2015
Graduate Research Assistant	Georgia Tech, Atlanta, GA Research in the <i>Embedded Pervasive Lab</i> under Dr. Kishore Ramachandran and <i>Systems Software & Security Lab</i> under Dr. Taesoo Kim.	since 08/2013
Software Developer	maas IT consulting, Kirchheim unter Teck, Germany Development of customized web applications.	2008 – 2013

Teaching Experience

Graduate Teaching Assistant	Georgia Tech, Atlanta, GA Graduate Teaching Assistant for <i>Computability & Algorithms</i> , <i>Computer Networks</i> , and <i>Advanced Operating Systems</i> .	2014 – 2018
Teaching Assistant	University of Stuttgart, Germany Teaching Assistant for <i>Distributed Systems</i> & a hands-on class on processor architecture and design.	2011 – 2013

Technical Strengths

Languages	C++, C, and Python
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