Steffen Maass

School of Computer Science
Georgia Tech

Room 3124
Klaus Advanced Computing Building
266 Ferst Dr NW, Atlanta GA 30332-0765

(404) 491-7237
steffen.maass@gatech.edu
https://steffen-maass.github.io

Education

Georgia Institute of Technology	Ph.D. in Computer Science Atlanta, GA Advisor: Dr. Taesoo Kim Field of research: Systems	01/2015 – 05/2019 (*expected*) *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: *Database Systems* and *Distributed Systems* Thesis: Distributed Graph Processing and Partitioning for Spatiotemporal Queries in the Context of Camera Networks	10/2012 – 08/2015 *GPA: 1.1 / 1.0* *(excellent with distinction)*
University of Stuttgart	B.Sc. in Computer Science Stuttgart, Germany Thesis: Efficient Strategies for Task Distribution for Public Sensing	10/2009 – 09/2012 *GPA: 1.5 / 1.0* *(excellent)*

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].
I am furthermore working on a profiler for distributed systems which allows developers to easily identify code for which optimizations have a high potential of improving the application's performance [Poster @ NSDI'17].

Publications

1. **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%

2. **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

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%

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
DAAD	Stipend($15K) and tuition waiver awarded by the German Academic Exchange Service (DAAD) for studying at the Georgia Institute of Technology.	08/2013 – 08/2014

Travel Grants

1. **14th USENIX Symposium on Networked Systems Design and Implementation** 03/2017
Boston, MA

Invited Talks and Presentations

EuroDW'18	Kaleidoscope: Graph Analytics on Evolving Graphs	Porto, 04/2018

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 backend.	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 *Embedded Pervasive Lab* under Dr. Kishore Ramachandran and *Systems Software & Security Lab* under Dr. Taesoo Kim.	since 08/2013
Software Developer	maaß IT consulting, Kirchheim unter Teck, Germany Development of customized web applications.	2008 – 2014

Teaching Experience

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

Technical Strengths

Languages	C++, C, and Python

Open-Sourced Projects

MOSAIC	https://github.com/sslab-gatech/mosaic/	06/2017
File System Scalability	https://github.com/sslab-gatech/fxmark	08/2016