

MOHAN KUMAR

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Education

Georgia Institute of Technology	Ph.D. in Computer Science Atlanta, GA Advisor: Dr. Taesoo Kim	05/2014–05/2019 (expected)
University of Madras	B.E in Computer Science Chennai, India	05/1998–05/2002

Research Interests

Operating systems, Distributed systems, and Computer networks.

Current Research

My current research enables data center server applications to improve their performance using Linux eBPF. I am interested in extending the use of eBPF/XDP for data plane processing, and its extension to hardware using P4.

Conference 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.
In *Proceedings of the 13th ACM European Conference on Computer Systems (EuroSys 2018)*,
Porto, Portugal, April, 2018.
To appear
2. **LATR: Lazy Translation Coherence**
Mohan Kumar, Steffen Maass, Sanidhya Kashyap, Jan Vesely, Zi Yan, Taesoo Kim, Abhishek Bhattacharjee, and Tushar Krishna.
In *proceedings of the 23rd ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2018)*,
Williamsburg, VA, USA, March, 2018.
To appear
3. **Mosaic: Processing a Trillion-Edge Graph on a Single Machine.**
Steffen Maass, Changwoo Min, Sanidhya Kashyap, Woonhak Kang, **Mohan Kumar**, and Taesoo Kim.
In *Proceedings of the 12st ACM European Conference on Computer Systems (EuroSys 2017)*,
Belgrade, Serbia, April, 2017.
Best student paper
4. **TCP Ordo: The cost of ordered processing in TCP Servers**
Mohan kumar and Ada Gavrilovska.
In *Proceedings of the IEEE International Conference on Computer Communications (INFOCOM 2016)*,
San Fransico, CA, April 2016.

Workshop publications

1. **S-NFV: Securing NFV states by using SGX.**
Ming-Wei Shih, **Mohan Kumar**, Taesoo Kim, and Ada Gavrilovska.
In *Proceedings of the ACM International Workshop on Security in SDN and NFV (SDN-NFV Security 2016)*,
New Orleans, LA, March, 2016.
Best paper and published in NFV congress

Posters

1. **Network Function Fault Isolation in a Single Address Space**
Mohan Kumar, Steffen Maass, and Taesoo Kim.
In *the 14th USENIX Symposium on Networked Systems Design and Implementation (NSDI'17) Poster*
Boston, MA, April, 2017.
2. **DistCoz: Tell Me What to Optimize in My Distributed Application**
Steffen Maass, **Mohan Kumar**, and Taesoo Kim.
In *the 14th USENIX Symposium on Networked Systems Design and Implementation (NSDI'17) Poster*
Boston, MA, April, 2017.

Awards

Eurosys'17	Best student paper award	04/2017
SDN-NFV'16	Best paper award	03/2016

Travel Grants

1. **25th ACM Symposium on Operating Systems Principles**
Monterey, CA
10/2015
2. **14th USENIX Symposium on Networked Systems Design and Implementation**
Boston, MA
03/2017

Invited Talks and Presentations

IEEE Infocomm	TCP Ordo: The cost of ordered processing in TCP Servers	04/2016
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Work Experience

Research Intern	AT&T Labs, Bedminster, NJ Worked on improving OS per core packet processing performance for software switching	06/2016–08/2016
Research Intern	HP Labs, Palo Alto, CA Worked on communication software framework for next generation data centers	05/2015–08/2015
Research Assistant	Georgia Tech, Atlanta, Ga Research in the CERCS under Dr. Ada Gavrilovska and Systems Software & Security Lab under Dr. Taesoo Kim.	05/2014–

Senior Software Engineer	Cisco Mobile Internet Technology Group, Bangalore, India Worked on the software stack design and development for 4G telecommunication nodes such as Packet Data Network Gateway(PGW) and Serving Gateway(SGW)	08/2010–05/2014
Senior Software Engineer	IBM, Bangalore, India Worked on the software stack design and development for 3G telecommunication nodes	08/2008–08/2010
Systems Engineer	TCS, Mumbai, India Worked on the software stack design and development for 2G telecommunication nodes for call processing	05/2003–08/2008

Teaching Experience

Teaching Assistant	Georgia Tech, Atlanta, Ga Teaching assistant for Advanced Operating Systems(AOS) during Spring 2016	01/2016–05/2016
Teaching Assistant	Georgia Tech, Atlanta, Ga Teaching assistant for Advanced Operating Systems(AOS) during Spring 2018	01/2018–05/2018