

Nikhil A. Handigol

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- EXPERTISE** Computer Systems and Networking
- EDUCATION**
- Stanford University** 2008 - 2013
PhD, Computer Science Department
Advisor: Prof. Nick McKeown
- Indian Institute of Technology Madras** 2004 - 2008
Bachelor of Technology, Computer Science and Engineering
Major: Computer Science and Engineering
Minor: Operations Research
- ACADEMIC PERFORMANCE**
- *Graduate GPA (Stanford University)* **4.3/4.0**
 - *Undergraduate Cumulative GPA (IIT Madras)* **9.66/10.00**
- RESEARCH GRANTS**
- **NSF EAGER Research Grant** **Oct 2010 – Sep 2011**
In collaboration with U. Washington, U. Wisconsin, and Georgia Tech.
- PUBLICATIONS**
- **I Know What Your Packet Did Last Hop: Using Packet Histories to Troubleshoot Networks**
Nikhil Handigol, B. Heller, V. Jeyakumar, D. Mazieres, N. McKeown
To be presented at NSDI 2014, Seattle, WA
 - **Reproducible Network Experiments using Container Based Emulation**
Nikhil Handigol, Brandon Heller, Vimalkumar Jeyakumar, Bob Lantz, Nick McKeown
CoNEXT 2012, Nice, France
 - **Confused, Timid, and Unstable: Picking a Video Streaming Rate is Hard**
T.Y. Huang, Nikhil Handigol, B. Heller, N. McKeown, R. Johari
IMC 2012, Boston, USA
 - **Where is the Debugger for my Software-Defined Network?**
Nikhil Handigol, B. Heller, V. Jeyakumar, D. Mazieres, N. McKeown
HotSDN 2012, Helsinki, Finland (**Best Student Presentation Award**)
 - **Leveraging SDN Layering to Systematically Troubleshoot Networks**
B. Heller, C. Scott, N. McKeown, S. Shenker, A. Wundsam, H. Zeng, S. Whitlock,
V. Jeyakumar, Nikhil Handigol, J. McCauley, K. Zarifis, P. Kazemian
HotSDN 2013, Hong Kong
 - **Logically Centralized? State Distribution Trade-offs in Software Defined Networks**
D. Levin, A. Wundsam, B. Heller, Nikhil Handigol, Anja Feldmann
HotSDN 2012, Helsinki, Finland

- **Aster*x: Load-Balancing as a Network Primitive**
Nikhil Handigol, M. Flajslik, S. Seetharaman, R. Johari, N. McKeown
ACLD 2010 (Poster), St. Malo, France
 - **Blueprint for Introducing Innovation into Wireless Mobile Networks**
KK Yap, R. Sherwood, M. Kobayashi, TY Huang, M. Chan, Nikhil Handigol, N. McKeown, G. Parulkar
VISA 2010: Proceedings of the 2nd ACM workshop on Virtualized Infrastructure Systems and Architecture
 - **Carving Research Slices Out of Your Production Networks with Open-Flow**
R. Sherwood, M. Chan, A. Covington, G. Gibb, M. Flajslik, Nikhil Handigol, TY Huang, P. Kazemian, M. Kobayashi, J. Naous, S. Seetharaman, D. Underhill, T. Yabe, KK Yap, Y. Yiakoumis, H. Zeng, G. Appenzeller, R. Johari, N. McKeown, G. Parulkar
SIGCOMM Computer Communication Review, January 2010, Volume 40 Issue 1 (**SIGCOMM Best Demo 2009**)
 - **OpenRoads: Empowering Research in Mobile Networks**
KK Yap, M. Kobayashi, Nikhil Handigol, TY Huang, M. Chan, R. Sherwood, N. McKeown
ACM SIGCOMM Computer Communication Review , January 2010, Volume 40 Issue 1 (**SIGCOMM Best Poster 2009**)
 - **Report on WREN 2009 – Workshop: Research on Enterprise Networking**
Nathan Farrington, Nikhil Handigol, Christoph Mayer, Kok-Kiong Yap, and Jeffrey C. Mogul
ACM SIGCOMM Computer Communication Review, January 2010, Volume 40 Issue 1
 - **Fast Reroute and Multipath Routing Extensions to the NetFPGA Reference Router**
Hongyi Zeng, Mario Flajslik, Nikhil Handigol
NetFPGA Developers Workshop 2009, Stanford, CA
 - **A Reliable Data Transport Protocol for Partitioned Actors in Wireless Sensor and Actor Networks**
Nikhil Handigol, K. Selvaradjou, C. Siva Ram Murthy
International Conference on High Performance Computing (HiPC), December 2010
 - **Energy Efficient Directional Routing for Effective Actor-Actor Communication in Wireless Sensor and Actor Networks**
Nikhil Handigol, K. Selvaradjou, A. Franklin, C. Siva Ram Murthy
ICCBN 2008, Bangalore, India
 - **Energy-Efficient Directional Routing Between Partitioned Actors in Wireless Sensor and Actor Networks**
K. Selvaradjou, Nikhil Handigol, A. Franklin, C. Siva Ram Murthy
IET Communications, January 2010, Volume 4, Issue 1
- PROFESSIONAL ACTIVITIES**
- HotSDN 2013 (Program Committee Member)

INVITED TALKS

- **Troubleshooting Networks with Packet Histories**
Insieme Tech Talk, November 30, 2012
NTT MCL, October 3, 2012
- **Should a load-balancer choose the path as well as the server?**
Facebook Brown Bag Talk, July 18, 2011
Google Tech Talk, July 14, 2011
Netflix, June 7, 2011
Amazon Web Services, May 17, 2011
University of Washington Systems Seminar, May 19, 2011
- **OpenFlow: Enabling Technology Transfer to Networking Industry**
Cisco Nerd Lunch, July 9, 2009

WORK EXPERIENCE

- **Director, Course Content and Instruction** Current
SDN Academy
- **Member of Technical Staff** April 2013 - August 2013
Open Networking Laboratory
- **Research Assistant**, Stanford University Autumn 2008 - Winter 2013
Guide: Prof. Nick McKeown
- **Teaching Assistant**, Stanford University Spring 2012
CS244: Advanced Topics in Networking
- **Teaching Assistant**, Stanford University Winter 2011
CS244: Advanced Topics in Networking
- **Student Collaborator**, Cisco Systems, Inc. Summer 2009
- **Visiting Scholar**, Carnegie Mellon University Summer 2007
Guides: Prof. David Andersen and Dr. Michael Kaminsky
- **Summer Intern**, Strand Life Sciences, Bangalore Summer 2006
Guide: Prof. Ramesh Hariharan

ACADEMIC HONORS

- University of Washington (Seattle) **Graduate Fellowship** (declined).
- Selected for the IIT Madras - National University of Singapore Student Exchange Programme, 2007 and obtained a perfect **GPA of 5.0/5.0** at NUS, Singapore.
- **Gold Medal Award in Indian National Chemistry Olympiad (INChO)** for being among the **top 25** students in the International Chemistry Olympiad Training Camp held at HBCSE, Mumbai in 2004.
- Selected for **National Initiative on Undergraduate Science (NIUS)** - 2005 programme by HBCSE, Mumbai for being among the **top 10** students in the International Chemistry Olympiad Training Camp 2004.
- Certificate of Merit for being in National **top 1%** out of 31459 candidates in **National Standard Examination in Physics (NSEP)** 2003-04 conducted by Indian Association of Physics Teachers.
- Merit Certificates in **National Mathematics Olympiad Contest-2002**, B-level and KVS 4th **Junior Mathematics Olympiad** 2001-02.
- All India Rank of **148** out of approximately 200,000 students appearing for the Indian Institute of Technology-Joint Entrance Examination (IIT-JEE), 2004. (**99.9 percentile**)
- All India Rank of **159** and Karnataka State Rank of **6** in All India Engineering Entrance Examination (AIEEE), 2004.