PUNEET JAIN

cse.puneet@gmail.com
www.cs.duke.edu/~puneet/
(919) 636-8303

RESEARCH INTEREST

Extensive research experience in building large-scale practical mobile systems, leveraging capabilities of mobile sensing, computer vision, and big data on cloud. Current research focuses on end-to-end system design for real-world environments. Recent projects involve distant object localization, mobile augmented reality, and real-time video-analytics.

EDUCATION

Duke University, Durham, NC
Ph.D., Computer Science, 2015
M.S., Computer Science 2011-2013
Advisor: Professor Romit Roy Choudhury at UIUC

Indian Institute of Technology (IIT), Kharagpur, India
M.Tech, Computer Science and Information Technology 2009
B.Tech, Computer Science and Engineering 2008

EXPERIENCE

University of Illinois, Urbana-Champaign
Visiting Graduate Student Fall 2013 - 2015

IBM T.J. Watson Research Center, Yorktown Heights
Research Intern Summer 2012 and 2013
Mentors: Justin Manweiler and Arup Acharya

- Real-time graph analytics on large scale social data (Summer'13)
- Real-time video analytics on live streaming data (Summer'12)

Adobe Systems, Bangalore
Senior Member Technical Staff 2011-2011

Oracle Corporation, Bangalore
Senior Member Technical Staff 2009-2011
Summer Intern Summer 2008

University of Southern California, Los Angeles
Visiting Researcher Summer 2007
Mentor: Professor Ramesh Govindan

COMPUTER SKILLS

- **Programming and Scripting:** JAVA, C, C++, JavaScript, CSS, PHP
- **Computer Vision:** OpenCV, PCL, Bundler, 3D Reconstruction, FLANN, CUDA
- **Mobile and BigData:** iOS, Android, Renderscripts, Hadoop, HBase, Giraph, Pig Latin
- **Databases:** Oracle 11G, TopLink/Hibernate, PL/SQL, SQL, NoSQL
- **Misc:** CPLEX, MATLAB, Mathematica

AWARDS

- Best Demo Award at HotMobile'15
- Travel Awards: MobiSys'15, HotMobile'15, ICWSM'14, SenSys'13
- Duke Summer Research Fellowship: 2014, 2015
- Best Poster Award, Graduate Student Retreat, Duke University, 2012
- Adobe Spot Bravo Award for delivering 7 features in 2 months, 2011
- InfoUSA Research Grant, Summer Internship, 2007
- Merit Scholarship, IIT Kharagpur, 2004-2008

PUBLICATIONS

Conference

OverLay: Practical Mobile Augmented Reality
P. Jain, J. Manweiler, R. Roy Choudhury.
In: ***ACM MobiSys 2015*** (acceptance ratio - 13.2%)

Scalable Social Analytics for Live Viral Event Prediction
P. Jain, J. Manweiler, A. Acharya, R. Roy Choudhury.
In: ***AAAI ICWSM 2014*** (acceptance ratio - 23%)

FOCUS: Clustering Crowdsourced Videos by Line-of-Sight
P. Jain, J. Manweiler, A. Acharya, K. Beaty.
In: ***ACM SenSys 2013*** (acceptance ratio - 17%)

Satellites in Our Pockets: An Object Positioning System using Smartphones
J. Manweiler, P. Jain, R. Roy Choudhury.
In: ***ACM MobiSys 2012*** (acceptance ratio - 17%)

A multi objective evolutionary algorithm based approach for traffic grooming, routing and wavelength assignment in optical WDM networks
T. De, P. Jain, A. Pal, I. Sengupta.
In: ***IEEE ICIIS 2008***

A genetic algorithm based approach for traffic grooming, routing and wavelength assignment in optical WDM mesh networks
T. De, P. Jain, A. Pal, I. Sengupta.
In: ***IEEE ICON 2008***

Journal

Distributed dynamic grooming routing and wavelength assignment in WDM optical mesh networks
T. De, P. Jain, A. Pal.
In: ***Springer, Photonic Network Communications 2011***

Traffic Grooming in WDM Mesh Networks: A Light Trail Implementation
S. Bhattacharya, P. Jain, T. De.
In: ***Journal of Advanced Materials Research 2011***

Posters and Demos

User Location Fingerprinting at Scale, **MobiCom 2015**

Pratical Mobile Augmented Reality, **HotMobile 2015** (Best Demo Award, Watch Video Demo)

Real-time Object Tagging and Retrieval, **MobiSys 2014**

FOCUS: Clustering Crowdsourced Videos by Line-of-Sight, **SenSys 2013** (Watch Video Demo)

Satellites in Our Pockets: An Object Positioning System using Smartphones, **MobiSys 2012** (Watch Video Demo)

Patents and Disclosures

Method for real-time viral event prediction from social data (**Filed**)
P. Jain, J. Manweiler, A. Acharya, K. Beaty.

Method for clustering crowdsourced videos by line-of-sight (**Filed, USPA: 20140294361**)
P. Jain, J. Manweiler, A. Acharya, K. Beaty.

Crowdsourced billboards using smartphones(IBM internal review)
P. Jain, J. Manweiler, A. Acharya, K. Beaty.

J. Manweiler, P. Jain, R. R. Choudhury.
An object positioning system using smartphones (Duke internal review)

Articles

Conference: MobiSys 2014, *Pervasive Computing*, IEEE, October-December 2014 Issue.
P. Jain and T. Peters

ACADEMIC-SERVICES

- Program Committee Co-chair: ACM S^3 2015, in conjunction with MobiCom.
- Program Committee Member: PerCom 2016 workshop on Contact-free Ambient Sensing, IEEE DMSS 2015
- Reviewer (Conferences): ICNP 2015, UbiComp 2015, SigGraph 2014
- Reviewer (Journals): Transactions on Mobile Computing, Transactions on Cloud Computing, Transactions on Sensor Networks, Transactions on Knowledge Discovery from Data

MEDIA RELEASE

- CSL advances mobile augmented reality technology: Phys.org, ECN Magazine, DeepStuff, ...

INVITED TALKS

- Frontiers of Cloud Computing and Big Data Workshop, IBM Research, Yorktown Heights, NY, October, 2014
- Systems & Networking Noontime Seminars, UIUC, February, 2014

TEACHING-ASSISTANT

- Computer Architecture, Fall 2012, Duke University
- Software Design and Implementation, Spring 2012, Duke University
- Database Management Systems, Spring 2009, IIT Kharagpur
- Design and Analysis of Algorithms, Fall 2008, IIT Kharagpur

REFERENCES

Romit Roy Choudhury
THESIS ADVISOR
Associate Professor
Department of Electrical and Computer Engineering
University of Illinois, Urbana-Champaign, IL
croy@illinois.edu
web.engr.illinois.edu/~croy/

Arup Acharya
INTERNSHIP MENTOR, 2012 and 2013
Research Staff Member
IBM Thomas J. Watson Research Center
Yorktown Heights, NY
arup@us.ibm.com
researcher.ibm.com/view.php?person=us-arup

Landon Cox
CO-ADVISOR, THESIS COMMITTEE
Associate Professor
Department of Computer Science
Duke University, Durham, NC
lpcox@cs.duke.edu
cs.duke.edu/~lpcox/

Bruce Maggs
THESIS COMMITTEE
Professor
Department of Computer Science
Duke University, Durham, NC
bmm@cs.duke.edu
cs.duke.edu/~bmm/