

Rajdeep Das

PERSONAL INFORMATION

PhD Student
UC San Diego
La Jolla, CA (USA)

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RESEARCH INTERESTS

Datacenter Networking, Wireless Networking, Real-Time Streaming, Wide-Area Networking

EDUCATION

PhD / Computer Science and Engineering

University of California San Diego

2017 - present

M.Tech / Computer Science and Engineering

Indian Institute of Technology Kanpur

2013 - 2015

B.Tech / Information Technology

West Bengal University of Technology

2009 - 2013

High School / Indian School Certificate

Council for the Indian School Certificate Examinations

2009

PUBLICATIONS

Junchen Jiang, Rajdeep Das, Ganesh Ananthanarayanan, Philip A. Chou, Venkata Padmanabhan, Vyas Sekar, Esbjorn Dominique, Marcin Goliszewski, Dalibor Kukoleca, Renat Vafin, Hui Zhang. "VIA: Improving Internet Telephony Call Quality Using Predictive Relay Selection". ACM SIGCOMM, 2016

Rajdeep Das, Nimantha Baranasuriya, Venkat Padmanabhan, Christoffer Rodbro, Seth Gilbert. "Informed Bandwidth Adaptation in Wi-Fi Networks using Ping-Pair". ACM CoNext, 2017

Sagar Parihar, Ziyaan Dadachanji, Praveen Kumar Singh, Rajdeep Das, Amey Karkare, Arnab Bhattacharya. "Automatic Grading and Feedback using Program Repair for Introductory Programming Courses". ACM ITICSE, 2017

PROFESSIONAL EXPERIENCE

Microsoft Research India / Research Fellow Bangalore (India), August 2015 - August 2017
Mobility, Networks and Systems Research Group

Via - Mapping the network performance between a cluster of network endpoints (such as autonomous systems) using data collected from Skype calls. This was then used to predict the quality of future calls or alternative paths that could lead to better call quality. Ran simulations and built a real-world prototype. Also built a web-based 3D visualization tool to aid in the understanding of this approach.

Kwikr - Improving bandwidth adaptation for real-time streaming applications such as Skype running over Wi-Fi networks. Built detectors for congestion, handoffs and link-strength-change at the WiFi access point. The congestion detector involved our novel ping-pair technique which estimates the queueing delay at the wireless access point. Integrated Kwikr into Skype for Android consumer production clients which we used to evaluate our approach on millions of Skype consumers.

Multipath in Real-Time Streaming - Evaluating the benefits of using multipath in real-time streaming applications. Built a WebRTC based experimental framework which we used to collect data from

users located at different parts of the world. Analyzed data to understand cause of call drops and simulated potential benefits of using multipath.

PriceWaterhouseCoopers / Intern Kolkata (India), June 2012 - August 2012
Assessing web applications for security vulnerabilities and recommending fixes for them. Vulnerabilities tested for include attacks such as cross-site-scripting, injection, session hijacking, sensitive data leakage, cross-site-request-forgery, insecure direct object references and unvalidated forwards/redirects.

MASTER'S THESIS **A Tutoring System for Introductory Programming**
Developed a software system for teaching introductory programming (Prutor). Prutor is a distributed system for managing a programming course. It exports a web interface that students can use to solve programming problems and receive feedback on syntactic/semantic errors. Prutor can trace the evolution of student programs to aid in understanding of the student's approach while solving the programming problem. The system helps improve interactivity between students and tutors/TAs. Data collected using Prutor has been used to develop a lot of tools which aid in computer science education and has led to publications in major conferences. Prutor is now the standard for teaching introductory programming at IIT Kanpur and has also been deployed at IIT Bombay and IIT Goa to conduct introductory programming courses. The Best Software Award at IIT Kanpur was received for Prutor.

AWARDS & **Best Software Award** 2015
ACHIEVEMENTS *Indian Institute of Technology Kanpur*

School Topper 2003, 2007, 2008
National Science Olympiad

CO-CURRICULAR **Google Dev Fest / Runner Up** September 2013
ACTIVITIES *WishEmAll*: Created an app that automatically wishes Facebook friends on their birthdays.

Yahoo! Hack U / Honourable Mention August 2013
Gyaanometer: Our hack was a user rating system for Yahoo answers, where every user would be given a rating according to her past activity. Our hack was ranked in the top 7 hacks.

Microsoft Code.Fun.Do / Participated January 2013
Botomatic: We created an app which would connect to Facebook on behalf of a user and chat with her friends. The app used Pandorabots AI to converse with the users' friends.