

Abhijit Mondal

Senior Engineer, VDX.TV

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Education **Indian Institute of Technology Kharagpur** India
PhD, Computer Science & Engineering 2015 – 2021
Supervisor: Dr. Sandip Chakraborty, IIT Kharagpur

Indian Institute of Technology Guwahati India
M.Tech. in Computer Science & Engineering 2010 – 2012
Supervisor: Dr. T. Venkatesh, IIT Guwahati

West Bengal University of Technology (Kalyani Government Engineering College) India
B.Tech. in Computer Science & Engineering 2006 – 2010

Research Experience **Adaptive Bitrate Streaming: Performance over Today's Internet and Optimizations for the Future (PhD Thesis)**

The quality of online video streaming is sensitive to bandwidth and latency. It also concerns smartphone users as it consumes a lot of power. I have analyzed and developed a few efficient techniques to serve video with better quality of experience with reduced network utilization and optimized power requirement in case of smartphone in my thesis.

Studies on the TCP Congestion Control Algorithm for Small-Buffer Network (M.Tech. Thesis)

The TCP congestion control algorithm is very sensitive to packet loss, especially due to buffer overflow in intermediate network nodes. In this project we developed efficient congestion control algorithm for the network with tiny buffered node.

Viscous: An End to End Protocol for Ubiquitous Communication over Internet of Everything [[↗](#)]

Nova: System Call Interception for Serverless Isolation [[↗](#)]

Industry Experience **VDX.TV** Remote, India
Senior Engineer 2021 -

Rovi Corporation Bangalore, India
Software Engineer 2012 - 2015
Rovi Corporation (Now TiVo) provides **search engines** in the entertainment domain. It also provides voice control for TVs and set-top boxes. My responsibilities were i) search protocol management, ii) lineup management, iii) memory optimization. I had worked on projects like i) language-based filtering, ii) dynamic lineup handling and iii) voice command flow.

TCS Innovation Lab Bangalore, India
Research Intern May 2017 - July 2017
This is a work to extend Socket APIs to control subflow priority for Multipath TCP.

Skills **Linux Kernel Programming, Network Programming, DevOps, Full Stack Development.**
Proficient in C, Python, C++, Java.
Familiar with Bash, JavaScript, Go, Android.

Mentoring Technical Projects.

Publications

An ns3-based Energy Module of 5G NR User Equipments for Millimeter wave Networks, Argha Sen, **Abhijit Mondal**, Basabdatta Palit, Jay Jayatheerthan, Krishna Paul, Sandip Chakraborty, **IEEE INFOCOM Poster 2021**

PARIMA: Viewport Adaptive 360-Degree Video Streaming, Lovish Chopra, Sarthak Chakraborty, **Abhijit Mondal**, Sandip Chakraborty, **The Web Conference (Erstwhile WWW) 2021**

System Call Interception for Serverless Isolation, Nishant Somy, **Abhijit Mondal**, Bishakh Ghosh, Sandip Chakraborty, **ACM SIGCOMM 2020 Demos and Posters**

Federated Adaptive Bitrate Live Streaming over Locality Sensitive Playback Coalitions, **Abhijit Mondal**, Sandip Chakraborty, **ACM SIGCOMM NAI 2020**

EnDASH - A Mobility Adapted Energy Efficient ABR Video Streaming for Cellular Networks, **Abhijit Mondal**, Basabdatta Palit, Somesh Khandelia, Nibir Pal, Jay Jayatheerthan, Krishna Paul, Niloy Ganguly, Sandip Chakraborty, **IFIP Networking 2020**

Does QUIC Suit Well with Modern Adaptive Bitrate Streaming Techniques?, **Abhijit Mondal**, Sandip Chakraborty, **IEEE Networking Letters 2(2) 2020**

An Experimental Study of C-RAN Fronthaul Workload Characteristics: Protocol Choice and Impact on Network Performance, Venu Balaji Vinnakota, Naganithin Manne, **Abhijit Mondal**, Debarati Sen, Sandip Chakraborty, **IEEE VTC2019-Spring**

Viscous: An End to End Protocol for Ubiquitous Communication Over Internet of Everything, **Abhijit Mondal**, Sourav Bhattacharjee, Sandip Chakraborty, **IEEE LCN 2017**

Candid with YouTube: Adaptive Streaming Behavior and Implications on Data Consumption, **Abhijit Mondal**, Satadal Sengupta, B.R. Reddy, M.J.V. Koundinya, Chander G., Pradipta De, Niloy Ganguly, Sandip Chakraborty, **ACM NOSSDAV 2017**

Academic

Teaching Assistant, Dept. of CSE (IIT Kgp)

Responsibilities

Subjects: Internet Architecture and Protocols, Programming and Data Structures, Computer Networks, Advances in Operating System Design, Algorithms Laboratory, Computer Networks and Internet Protocol (NPTEL)

Mentor for M.Tech./B.Tech projects, Dept. of CSE (IIT Kgp)

- Prediction of view port for 360 degree video streaming (July 2019 - May 2020)
- Development of zero cold start serverless platform (December 2019 - May 2020)
- Designing video streaming system to achieve link fairness (July 2018 - May 2019)
- Design of collaborative video streaming system with SVC (July 2017 - May 2018)

Conferences Organized

AIMLSystems 2021 Web Chair, COMSNETS 2019 Web Chair, MobiCom 2018 Volunteer, ICPE 2019 Volunteer, COMSNETS 2020 Volunteer

References

- Dr. Sandip Chakraborty (Assistant Professor, CSE, IIT Kharagpur)
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- Dr. Niloy Ganguly (Professor, CSE, IIT Kharagpur)
mail: niloy@cse.iitkgp.ac.in
- Dr. Rajeev Shorey (CEO, Academy of Research, University of Queensland - IIT Delhi)
mail: rshorey@iitd.ac.in