

Abhijit Mondal

Senior Engineer, VDX.TV

July 19, 2025

Email: am@abhijitmondal.in

Mobile: +91 9945 205 863

URL: <https://abhijitmondal.in>

Github: [//abhimp](https://github.com/abhimp)

LinkedIn: [//in/mondalabhijit/](https://in/mondalabhijit/)

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

West Bengal University of Technology (Kalyani Government Engineering College)

India

B.Tech. in Computer Science & Engineering

2006 – 2010

Industry

VDX.TV

Remote, India

Experience

Senior Engineer

2021 - 2025

AdWeb Team – High-Performance Ad Infrastructure Developer

Technologies: C, user-space fibers, binary JSON, advanced memory management, Grafana, Graphite

Responsibilities:

- Maintained C-based ad servers handling millions of requests/sec;
- Built IP-to-location services and native bindings (Java, Python, Node.js);
- Developed IPSearchTree for IP lookups;
- Implemented bot/crawler detection;
- Created health visualizer (Grafana, Graphite).

Key Skills: C, Python, Java, networking, Linux, low-level programming, observability.

Rovi Corporation

Bangalore, India

Software Engineer

2012 - 2015

Rovi Corporation (now TiVo) provides **search engines** in the entertainment domain. It also offers voice control for TVs and set-top boxes. My responsibilities included (i) search protocol management, (ii) lineup management, and (iii) memory optimization. I worked on projects such as (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.

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)

In this project we developed an efficient congestion control algorithm for the network with tiny buffered node which makes TCP less sensitive to packet losses caused by buffer overflow.

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

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

Skills

Linux Kernel Programming, Network Programming, DevOps, Full Stack Development.

Proficient in C, Python, C++, Go Lang, Java, Bash, Make, CMake, Linux OS, Native Binding, CI/CD.

Familiar with JavaScript, Rust, Android, VC++.

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 Khandelvia, 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)

Conferences

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)
mail: sandip@cse.iitkgp.ac.in
- Dr. Bishakh Chandra Ghosh (Director, Pinggy.io)
mail: ghoshibishakh@pinggy.io