Abhijit Mondal

Senior Engineer, VDX.TV

August 18, 2025

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Skills

Programming: C, C++, Python, Go, Java, Bash, SQL

Systems & Networking: Linux Kernel, User-space Fibers, Memory Management, TCP/IP

DevOps & Cloud: Docker, AWS, GitHub Actions, Grafana, Graphite

Frameworks: FastAPI, Django, JNI, Ctypes, NAPI

Other: PowerDNS, Load Balancing, HTTP/2, SQL Database

Industry Experience

VDX.TV — Senior Engineer - High-Performance Ad Infrastructure   Remote, India (2021 - 2025)

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

Highlights:

- Maintained **C-based ad servers** handling **1 million of requests/sec**
- Designed & developed an IP-to-location service with native bindings in Java, Python, and Node.js
- Implemented IPSearchTree for IP lookups, resulting in **10x performance improvement**
- Implemented realtime bot/crawler detection reducing false impression about 50%
- Built a service health monitoring dashboard using **Grafana & Graphite**, enhancing observability

Nference — Senior Software Engineer - Search Engine   Bangalore, India (2021)

Technologies: C/C++, Protobuf, Load Balancing Http/2

Highlights: Added search parameter enhancing result filtering

Rovi Corporation — Software Engineer - Search Engine   Bangalore, India (2012 - 2015)

Technologies: C, libEvent, Trie, Inverted List, Python

Highlights:

- Maintained C-based search engine handling **10,000+ queries per second per core**
- Updated query protocol enabling new voice command flow in entertainment space
- Optimized memory management, removed memory leaks
- Developed dynamic lineup handling enabling automatic program scheduling in smart set-top box
- Designed & implemented language and location based search result filtering

Citrix — Software Engineer - Life Cycle Management   Bangalore, India (2012)

Technologies: C, Windows

Highlights: Fixed user profile migration bug in XEN App

TCS Innovation Lab — Research Intern   Bangalore, India (2017)

Highlights: Extended Linux socket APIs to control subflow priority for Multipath TCP.

Education

IIT Kharagpur, Ph.D., Computer Science & Engineering	2015 – 2021
IIT Guwahati, M.Tech., Computer Science & Engineering	2010 – 2012
Kalyani Government Engineering College (WBUT), B.Tech., CSE	2006 – 2010

Research & Publications

- System Call Interception for Serverless Isolation – ACM SIGCOMM Demos & Posters 2020
- Federated Adaptive Bitrate Live Streaming – ACM SIGCOMM NAI 2020
- Viewport Adaptive 360° Video Streaming – TheWebConf 2021
  Full list: abhijitmondal.in/publications

Conferences Organized

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