# Vinod Khandkar

Ph.d. Research scholar

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Vinod Khandkar

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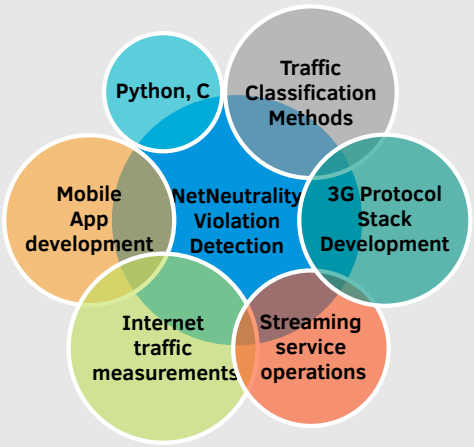
## Skills




## Interests

- 5G-6G
- Network security
- Internet Measurements
- Net-neutrality

## References

Prof. Manjesh K. Hanawal

mhanawal@iitb.ac.in

Prof. D. Manjunath

dmanju@iitb.ac.in

## Education

2018-todate **Ph.D., Industrial Engineering and Operations Research** **IIT Bombay**
Research Topics: Net-neutrality violation detection, ESNI
*Supervisor: Prof. Manjesh Kumar Hanawal*

1999-2001 **Master of Technology, Electrical Engineering** **IIT Bombay**
Specialization: Communication Engineering

## Ph.D. Research Experience

- Studied traffic classification methods and net-neutrality violation detection
- Using customised secure channel establishment, devised a method to emulate correctly classifiable streaming service's traffic
- Devised a measurement method to generate directly comparable Quality-of-Service of different Internet services
- Devised traffic differentiation detection algorithms
- Designed end-to-end measurement framework "FairNet" to check the net-neutrality violation status for streaming services
- Devised a ESNI/ECH method to encrypt the TLS handshake
- Demonstrated the working of the devised ESNI/ECH method over "Live" Internet

## Professional Experience

- Assisted in writing project proposals
- Engaged in Physical layer R&D for next-generation cellular networks
- Undertook feasibility study on using RFIC in satellite communication handset
- Implemented WB-AMR codec feature in 3GPP femto and pico cell data path
- Engaged in TD-SCDMA based test bench development
- Engaged in HSPA and HSPA+ feature development for network simulator
- Lead the 3G-AS security feature implementation redesign
- Accomplished the successful delivery of complete project SDLC as a sole PoC
- Demonstrated technical leadership in 3G protocol stack development
- Demonstrated problem solving as 3G AS-NAS subject matter expert e.g. for IOT

## Developed Tool

- FairNet App: **iOS**, **Android** (During Ph.D.)

## Patents

- Vinod S. Khandkar and Manjesh Kumar Hanawal, "FairNet : Measurement setup for Detection Net neutrality Violations", Indian patent, application no. 202021048922.
- Vinod S. Khandkar and Manjesh Kumar Hanawal, "Masking Host Identity on Internet: Encrypted TLS/SSL Handshake", Indian patent, application no. 202021055538.

## Publications

- For publication list go to the next page or **Click here for Google scholar**

***It is an interactive CV, Please print if necessary***

- Vinod S Khandkar, Manjesh K. Hanawal, "Challenges in Net Neutrality Violation Detection: A Case Study of Wehe Tool and Improvements", selected for 2022 International Conference on COMmunication Systems & NETworkS (COMSNETS) **(link)**

- Vinod S. Khandkar, Manjesh K. Hanawal, "Challenges in Net Neutrality Violation Detection: A Case Study of Wehe Tool", 2021 International Conference on COMmunication Systems & NETworkS (COMSNETS). **(link)**

- Vinod S. Khandkar, Manjesh K. Hanawal, "Detection of traffic discrimination in the internet", 2020 International Conference on COMmunication Systems & NETworkS (COMSNETS). **(link)**

- Vinod Khandkar, D. Manjunath, "Delay Models for Single Hop and Multihop HIERLAN", IEEE VEHICULAR TECHNOLOGY CONFERENCE, 2001. **(link)**

- Vinod S Khandkar, Manjesh K. Hanawal, "FairNet: A Measurement Framework for Traffic Discrimination Detection on the Internet", arXiv preprint, arXiv:2110.10534. **(link)**

- Vinod S Khandkar, Manjesh K. Hanawal, "Masking Host Identity on Internet: Encrypted TLS/SSL Handshake", arXiv preprint, arXiv:2101.04556 **(link)**