R Sri Prakash, Ph.D.

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Education

2018 – 23 ◇ **IIT Bombay**, Mumbai, India.
Ph.D., Electrical Engineering, CGPA: 8.28.
Dissertation: *Resource allocation for service hosting at the edge*.
Advisors: Prof. Sharayu Moharir and Prof. Nikhil Karamchandani.

2016 – 18 ◇ **IIT Bombay**, Mumbai, India.
M.Tech., Electrical Engineering, CGPA: 8.34.
Thesis: *Caching in distributed networks*.
Advisor: Prof. Sharayu Moharir.

2011 – 15 ◇ **MANIT Bhopal**, Bhopal, India.
B.Tech., Electronics & Telecommunication Engineering, CGPA: 7.66.

Research Interests

As a researcher with expertise in **mathematical modeling of stochastic systems** and **online learning**, I specialize in resource allocation for service hosting at edge. I utilize a combination of **probability and optimization techniques** in my work, and my notable **contributions** include:

- Analysis of popular online policies such as FTPL, Hedge, UCB, among others, in the *context of service hosting at the edge*.
- Providing *performance guarantees* in terms of regret for online policies in edge service hosting, as well as determining *the fundamental lower bound* on the regret of any online policy.
- Applying the *correlated multi-arm bandit* framework to the service hosting setting and developing algorithms that exploit the structure of the problem.
- Developing caching policies for *heterogeneous* data in distributed networks.

I am passionate about my work and am constantly seeking new opportunities to further my expertise and expand my knowledge. I am also interested in exploring the fields of **signal processing** and **wireless communications**.

Research Publications

Journals

1. **R Sri Prakash**, Nikhil Karamchandani, and Sharayu Moharir. *On the Regret of Online Edge Service Hosting*. Performance Evaluation (under review).
2. V S Ch Lakshmi Narayana, Mohit Agarwala, **R Sri Prakash**, Nikhil Karamchandani, and Sharayu Moharir. *Online Partial Service Hosting at the Edge*. ACM ToMPECS (under review).
3. Santosh Fatale, **R Sri Prakash**, and Sharayu Moharir. *Caching Policies for Transient Data*. IEEE Transactions on Communications 2020.

Conferences

1. **R Sri Prakash**, Nikhil Karamchandani, and Sharayu Moharir. *On the Regret of Online Edge Service Hosting*. CCDWN workshop WiOpt 2022.
2. **R Sri Prakash**, Nikhil Karamchandani, and Sharayu Moharir. *Best Arm Identification in Sample-path Correlated Bandits*. National Conference on Communications 2022. **(Best paper award)**

3. **R Sri Prakash**, Nikhil Karamchandani, and Sharayu Moharir. *Partial Service Caching at the Edge*. CCDWN workshop WiOpt 2020.
4. Santosh Fatale, **R Sri Prakash**, and Sharayu Moharir. *Caching Policies for Transient Data*. National Conference on Communications 2018.
5. **R Sri Prakash**, and Sharayu Moharir. *Caching Static and Transient Data*. poster paper in ACM Mobile Computing and Networking (MobiCom) 2018.

Awards and Achievements

2022 ◇ **Best Paper Award**, NCC-2022.
2021 ◇ **Twice Excellence in Teaching Assistantship Award**, IIT Bombay.
2019 ◇ Won 5 minutes **research story telling competition**, Department of Electrical Engineering, IIT Bombay.
2016 ◇ **All India Rank 119** out of 152k candidates in *GATE* with *ECE specialization*.

Skills

Languages ◇ Strong reading, writing and speaking competencies for English, Telugu.
Coding ◇ C++, C, Python, LaTeX.
Tools ◇ MATLAB, Eclipse.
Web Dev ◇ HTML, CSS.

Teaching Experience

2016 – 21 ◇ **Teaching Assistant** for the following courses.
Theory – Probability and Random Processes (EE 325), Statistical Signal Analysis (EE 601), Communication networks (EE706), Random graphs (EE766).
Laboratory – Digital Signal Processing Lab (EE 352), Communications Lab (EE340).

Relevant Courses

Mathematics ◇ Applied Linear Algebra, Statistical Signal Analysis, Optimization Techniques, Real analysis, Advanced Concentration inequalities, Markov Chains and Queing Systems.
Machine Learning ◇ Foundations of Machine Learning, Online Learning, Reinforcement learning.
Signal Processing ◇ Digital Signal Processing, Adaptive Signal Processing, Image processing.
Communications ◇ Digital Message Transmission, Wireless Communication, Information theory and coding, Communication networks, Network Security.

Extracurricular

Sports and games ◇ Cricket, Badminton, Swimming, Chess, Carrom.
Organiser ◇ Student volunteer for ACM-Mobihoc 2017, JTG summer school 2018, NCC 2022,
Positions of responsibility ◇ Maintenance councilor for Hostel 14 IIT Bombay (2018-2019)

References

- Sharayu Moharir, Associate Professor of Electrical Engineering, IIT Bombay. sharayum@ee.iitb.ac.in
- Nikhil Karamchandani, Associate Professor of Electrical Engineering, IIT Bombay. nikhilk@ee.iitb.ac.in