Gourav Prateek SHARMA

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EXPERIENCE

ISE, EECS, Royal Institute of Technology (KTH) *Oct 2022 - Present*
Postdoctoral Researcher

EDUCATION

IDLab, Ghent University - imec *Oct 2017 - June 2022*
Doctorate in Computer Science Engineering
Thesis: Optimization Algorithms for Virtual Network and Media Services

Indian Institute of Technology Delhi *July 2015 - May 2017*
Master in Technology **GPA**: 9.588/10
Optoelectronics and Optical Communication
Thesis: Optical Frequency Shifters based on Stimulated Brillouin Scattering

National Institute of Technology Srinagar *2011 - June 2015*
Bachelor in Electronics and Communication Engineering **GPA**: 8.33/10

JOURNAL PUBLICATIONS

1. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, Mario Pickavet, Jetmir Haxhibeqiri, Jeroen Hoebeke and Ingrid Moerman, "End-to-end Scheduling for Wired-wireless Mixed Networks," Submitted to *IEEE Transactions on Network and Service Management*, 2023.
2. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, and Mario Pickavet, "Routing and Scheduling for *1+1* Protected DetNet flows," Published at *Computer Networks*, 2022.
3. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, and Mario Pickavet, "Scheduling for Media Function Virtualization," Published in *Future Internet*, vol. 13, no. 7, 2021.
4. Gourav Prateek Sharma, Didier Colle, Wouter Tavernier, and Mario Pickavet, "On Decomposition and Deployment of Virtualized Media Services," Published in the *IEEE Transactions on Broadcasting*, vol. 67, no. 3, pp. 761–775, 2021.
5. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, and Mario Pickavet, "VNF-AAPC: Accelerator-aware VNF Placement and Chaining," Published in *Computer Networks*, vol. 177, 2020.
6. Gourav Prateek Sharma, Stefan Preußler and Thomas Schneider, "Precise Optical Frequency Shifting Using Stimulated Brillouin Scattering in Optical Fibers," Published in the *IEEE Photonics Technology Letters*, vol. 29, no. 17, pp. 1467-1470, 1 Sept.1, 2017.

CONFERENCE PUBLICATIONS

1. Jakob Miserez, Gourav Prateek Sharma and Wouter Tavernier, "Routing protocols exploiting queue information for deterministic networks," Accepted in the *International Conference on the Design of Reliable computer networks (DRCN)*, Vilanova, Spain, 2023.
2. Gourav Prateek Sharma, Didier Colle, Wouter Tavernier, and Mario Pickavet, "Improving resource utilization with Virtual Media Function decomposition," Published in the Proceedings of the *International Conference on Multimedia Computing, Networking and Applications (MCNA)*, Valencia, Spain (virtual), 2020, pp. 31–37.
3. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, and Mario Pickavet, "Hardware-accelerator aware VNF-chain recovery," Published in the Proceedings of the *International Conference on the Design of Reliable computer networks (DRCN)*, Milan, Italy (virtual), 2020.
4. Gourav Prateek Sharma, Didier Colle, Wouter Tavernier, and Mario Pickavet, "VNF-AAP: Accelerator-aware Virtual Network Function Placement," Published in the Proceedings of the *IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN)*, Dallas, USA, 2019.

5. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, and Mario Pickavet, "Dynamic hardware-acceleration of VNFs in NFV environments," Published in the Proceedings of the *International Conference on Software Defined Systems (SDS)*, Rome, Italy, 2019, pp. 254–259.
6. Gourav Prateek Sharma, Wouter Tavernier, Didier Colle, and Mario Pickavet, "Dynamic accelerator provisioning for SSH tunnels in NFV environments," Published in the Proceedings of the *IEEE Conference On Network Softwarization (Netsoft)*, Paris, France, 2019, pp. 242–244.

PROJECTS

- Worked on the problem of end-to-end scheduling for mixed wired-wireless TSN in the context of the FWO project VERI-END (2019-Present). The **optimization problem** for end-to-end packet scheduling was modeled as an ILP in the CPLEX environment and a greedy-based heuristic was proposed.
- Contributed to various tasks in the Horizon 2020 EU-funded project **NGPaaS** (2017-2019) led by NOKIA-BL Paris. On behalf of NGPaaS, gave a talk at India EU Stakeholders' workshop on 5G Technology Landscape regarding the NGPaaS platform (Feb. 2019).
- Developed a scheme for **dynamic provisioning of FPGA-based accelerator resources to virtual network functions** in NFV environments.
- Worked on **"Optical Frequency Shifters based on Stimulated Brillouin Scattering"** (Aug 2016 - May 2017) as a part of my M.Tech thesis at IIT Delhi and TU Braunschweig. The objective was to selectively amplify one of the sidebands of optical DSB-SC signal using stimulated Brillouin scattering.

ACHIEVEMENTS

- Recipient of the student travel grant for **IEEE NFV-SDN 2019**
- Recipient of the **DAAD's IIT Master Sandwich Scholarship 2016**
- Selected in the 18th **National Science Congress** 2010 (National level), Chennai to present a project on rural water purification system
- Technical Manager of **"EMBESYS"**, an event organized under technical festival at NIT Srinagar in 2014

SKILLS AND COMPETENCIES

Programming languages	C, Python, MATLAB, Verilog
Tools	Git/Github, CPLEX, LabView

LANGUAGES

Hindi, English, German (A1)

PROFESSIONAL SERVICES

Journals Reviews	Computer Communications, IEEE Communication Letters,
Conferences Reviews	IEEE DRCN, IEEE Globecom, IEEE Netsoft

INTERESTS

Badminton, Yoga, Cricket, Mindfulness

ONLINE COURSES AND MOOCS

- **Algorithms Specialization** offered by Coursera and Stanford University (April 2022)
- **Essentials of IP Media Transport for Broadcasters** offered by the SMPTE (February 2020)
- **Understanding SMPTE ST 2110** offered by the SMPTE (February 2020)
- MIT 3.15x: **Electrical, Optical, and Magnetic Materials and Devices** (July 2015) by edX and MIT.
- **Digital Signal Processing** (July 2014) by Coursera and EPFL.
- **"Embedded Systems – Shape the World"** (May 2014) offered by edX and the University of Texas Austin (Achieved 100%).

- **Computer Networks** (April 2014) by Coursera and the University of Washington.

REFERENCES

Available on request.