

<b>BIO &amp; RESEARCH INTERESTS</b>	My research interests are information theory and coding theory, and, more broadly, communications, especially multi-user communication. Recently, I have become interested in Machine Learning applied to communications, in particular Reinforcement Learning, which has a strong theoretical foundation.	
<b>EDUCATION</b>	<b>University of Toronto</b> , Canada <i>Doctor of Philosophy in Electrical &amp; Computer Engineering</i> Streaming codes.	2019-2024
	<b>Federal University of Santa Catarina</b> , Brazil <i>Master of Science in Electrical Engineering</i> Information theory and massive random access.	2017 - 2019
	<b>Federal University of Santa Catarina</b> , Brazil <i>Bachelor of Science in Electrical Engineering</i> Communications.	2012 - 2017
<b>PUBLICATION AWARDS</b>	<b>Best Communications Paper</b> <i>XXXVII Brazilian Symposium on Telecommunications and Signal Processing</i>	2019
	<b>Best Undergraduate Paper</b> <i>XXXIV Brazilian Symposium on Telecommunications and Signal Processing</i>	2016
<b>JOURNAL PUBLICATIONS</b>	<ol style="list-style-type: none"> <li>[1] G. K. Facenda, A. Khisti, W.-T. Tan, <i>et al.</i>, “Deep reinforcement learning for latency-sensitive communication with adaptive redundant retransmissions,” <i>IEEE Transactions on Communications</i>, 2023, Published in IEEE Transactions on Communications.</li> <li>[2] G. K. Facenda, M. Nikhil Krishnan, E. Domanovitz, <i>et al.</i>, “Adaptive relaying for streaming erasure codes in a three node relay network,” <i>IEEE Transactions on Information Theory</i>, 2023, Published in IEEE Transactions on Information Theory.</li> <li>[3] G. K. Facenda, E. Domanovitz, A. Khisti, <i>et al.</i>, <i>Streaming erasure codes over multi-access relayed networks</i>, Published in IEEE Trans. on Information Theory, 2023.</li> <li>[4] G. K. Facenda and D. Silva, <i>Efficient scheduling for the massive random access Gaussian channel</i>, Published in IEEE Trans. on Wireless Comm., 2020.</li> </ol>	
<b>WORK EXPERIENCE</b>	<b>Huawei Canada - Ottawa Wireless Team</b> - Research on machine learning applied to communications.	2024-present
	<b>Apple - Hardware Technologies</b> - Research on streaming codes.	2023
	<b>Huawei Canada - Ottawa Wireless Team</b> - Research on information theory and machine learning.	2022
	<b>LINSE - Circuit and Signal Processing Laboratory - R&amp;D Internship in Communications, DSP and Security</b> - Activities included research and development in partnership with a local communications company, working in a team of five to ten students. Projects included developing and implementing DTMF detectors; implementing voice CODECs in Blackfin Assembly; researching, developing and implementing modulation classifiers in software-defined radio; developing and implementing an automatic voice descrambler.	2013 - 2017
	- In 2016 and 2017, activities also included training students new to the group in C, MATLAB and Analog Devices’ Blackfin Assembly.	

## CONFERENCE PUBLICATIONS

- [5] G. Kasper Facenda, E. Domanovitz, M. Nikhil Krishnan, *et al.*, “On state-dependent streaming erasure codes over the three-node relay network,” in *ISIT*, 2022.
- [6] E. Domanovitz\*, G. K. Facenda\*, A. Khisti, *et al.*, *Guaranteed rate of streaming erasure codes over multi-link multi-hop network*, \*Equal contribution. Published in 2021 ITW., 2021.
- [7] N. K. M. Krishnan\*, G. K. Facenda\*, E. Domanovitz\*, *et al.*, *High rate streaming codes over the three-node relay network*, \*Equal contribution. Published in 2021 ITW., 2021.
- [8] G. K. Facenda, E. Domanovitz, A. Khisti, *et al.*, *Streaming erasure codes over multi-access relay networks*, Published in 2021 ISIT, 2021.
- [9] H. da Silva, G. K. Facenda, and D. Silva, *Activity detection for the massive random access Gaussian channel using compressive sensing\**, \*English translation. Published in Portuguese in 2020 SBrT., 2020.
- [10] G. K. Facenda and D. Silva, *An efficient grant-based scheme for the massive random access Gaussian channel*, Published in 2019 SBrT. Best communications paper award., 2019.
- [11] G. K. Facenda and D. Silva, *PSK and FSK Discrimination Using Higher-order Statistics\**, \*English translation. Published in Portuguese in 2017 SBrT., 2017.
- [12] G. K. Facenda and D. Silva, *PSK and FSK Discrimination Based on Higher-order Statistics\**, \*English translation. Published in Portuguese in 2016 SBrT in poster format. Best undergraduate paper award., 2016.

## TEACHING EXPERIENCE

**University of Toronto - Teaching Assistant**  
- Introduction to Machine Learning 2020-2022  
- Communication Systems 2022

**Federal University of Santa Catarina - Teaching Assistant**  
- Communication Systems 2015-2016  
- Software-Defined Radio 2017

## OTHER SKILLS

**Intermediate Level**  
C, MATLAB, Analog Devices’ Blackfin Assembly, GNU Radio, Simulink, Python  
**Beginner Level**  
Javascript, Linux

## OTHER EXPERIENCES

**Chair of Undergraduate Session** 2020  
*XXXVIII Brazilian Symposium on Telecommunications and Signal Processing*

## REFERENCES

References can be provided upon request.