Gustavo **Franco Camilo**

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Summary

I'm a second-year M.Sc. Electrical Engineering student at the Federal University of Rio de Janeiro under the co-orientation of Prof. Luís Henrique M. K. Costa and Prof. Miguel Elias M. Campista. I have received a B.Sc. *cum laude* degree in Electronic and Computer Engineering at the Federal University of Rio de Janeiro in November 2021. During my undergraduate education, I was part of the Grupo de Teleinformática e Automação (GTA) lab for 3 years under the orientation of Prof. Otto Carlos M. B. Duarte. I participated in several international publications that accumulated over 150 citations throughout this period. My research interests are mainly based on security in computer networks, focusing on blockchain, cryptography, payment channel networks, and federated learning.

Education

Federal University of Rio de Janeiro   *Rio de Janeiro, Brazil*

B.Sc. in Electronic and Computer Engineering   *2017 - 2021*

- Graduated one academic semester before regular schedule · First of 2017 ECE class to graduate · Undergraduate final project: "Secure, Distributed and Automatic Data Sharing through Blockchain Technology"
- Undergraduate final project selected among ten best works in the Undergraduate Research Contest by the Brazilian Computer Society
- Graduated with *cum laude* (*with honors*) distinction, given to top 5% students · Final CGPA: 8.3/10.0 · Final 2-years CGPA: 8.8/10.0

Federal University of Rio de Janeiro   *Rio de Janeiro, Brazil*

M.Sc. in Electrical Engineering   *Nov 2021 - Present*

- Research efficient rebalancing and routing algorithms for payment channel networks.
- Cumulative PGA: 3.0/3.0

Experience

Federal University of Rio de Janeiro

Teaching Assistant - Programming II   *Feb 2018 - Nov 2018*

- Assisted students in Programming II C-language lab classes about programming good practices and concepts, such as functions, pointers, and data structures.

Federal University of Rio de Janeiro

Research Assistant (Undergraduate Research Program)   *Nov 2018 - Nov 2021*

- Awarded scholarship from the Brazilian National Council for Scientific and Technological Development to research cutting-edge technologies, such as blockchain and federated learning, applied to network security problems.
- Built system prototypes using Apache Spark, Hyperledger Fabric, and Docker Containers.
- Published papers in international conferences and journals, achieving over 150 citations.

Honors & Awards

2023	**Honorable Mention,** given by the Brazilian Computer Society for the work presented at the Brazilian Symposium of Computer Networks and Distributed Systems	*Brasília, Brazil*
2023	**Honorable Mention,** given by the Brazilian Computer Society for the work presented at Workshop of Urban Computation of the Brazilian Symposium of Computer Networks and Distributed Systems	*Brasília, Brazil*
2022	**Best Work in Session of the Federal University of Rio de Janeiro Technology Center,** given by the Federal University of Rio de Janeiro for the work presented at the Undergraduate Research Exposition	*Rio de Janeiro, Brazil*
2021	**Graduation distinction (*cum laude*),** given by the Federal University of Rio de Janeiro to top 5% students	*Rio de Janeiro, Brazil*
2021	**Honorable Mention,** given by the Brazilian Computer Society for the work presented at the IV Workshop on Blockchain at the Brazilian Symposium of Computer Networks and Distributed Systems	*Virtual*
2020	**Best Work in Session of the Federal University of Rio de Janeiro Technology Center,** given by the Federal University of Rio de Janeiro for the work presented at the Undergraduate Research Exposition	*Rio de Janeiro, Brazil*
2020	**Honorable Mention,** given by the Brazilian Computer Society for the work presented at the III Workshop on Blockchain at the Brazilian Symposium of Computer Networks and Distributed Systems	*Virtual Conference*
2019	**Best Paper Award,** given by the Brazilian Computer Society for the work presented at the II Workshop on Blockchain at the Brazilian Symposium of Computer Networks and Distributed Systems	*Gramado, Brazil*

Publications

CONFERENCES

Camilo, G. F., Souza, L. A. C., Campista, M. E. M., Costa, L. H. M. K. - "A Blockchain-based System for Secure and Distributed Virtual Network Functions Orchestration", in IEEE International Conference on Communications - ICC 2022, Seoul, South Korea, May 2022.

Rebello, G. A. F., **Camilo, G. F.**, Potop-Butucaru, M., Campista, M. E. M., Amorim, M. D., Costa, L. H. M. K. - "PCN-sim: A Flexible and Modular Simulator for Payment Channel Networks", Demo at the IEEE International Conference on Computer Communications (INFOCOM), Virtual Conference, May 2022. **More information at** `https://pcnsim.readthedocs.io`.

de Souza, L. A. C., **Camilo, G. F.**, Campista, M. E. M., Costa, L. H. M. K., Duarte, O. C. M. B.- "Enhancing Automatic Attack Detection through Spectral Decomposition of Network Flows", in IEEE Global Communications Conference - (GLOBECOM 2022), Rio de Janeiro, Brazil, December 2022.

Alvarenga, I. D., **Camilo, G. F.**, de Souza, L. A. C., Duarte, O. C. M. B. - "DAGSec: A hybrid distributed ledger architecture for the secure management of the Internet of Things", in 4th IEEE International Conference on Blockchain (Blockchain 2021), Melbourne, Australia, December 2021. **Acceptance rate:** $\approx 24.7\%$

Rebello, G. A. F., **Camilo, G. F.**, Guimarães, L. C. B., Souza, L. A. C., Duarte, O. C. M. B., "On the Security and Performance of Proof-based Consensus Protocols", in 4th Conference on Cloud and Internet of Things (CIoT 2020), Niterói, Brazil, October 2020.

Souza, L. A. C., Rebello, G. A. F., **Camilo, G. F.**, Guimarães, L. C. B., Duarte, O. C. M. B., "DFedForest: Decentralized Federated Forest", in 3rd IEEE International Conference on Blockchain (Blockchain-2020), Rhodes Island, Greece, November 2020. **Acceptance rate:** $\approx 16\%$

Camilo, G. F., Rebello, G. A. F., Souza, L. A. C., Duarte, O. C. M. B., "A Secure Personal-Data Trading System Based on Blockchain, Trust, and Reputation", in 3rd IEEE International Conference on Blockchain (Blockchain-2020), Rhodes Island, Greece, November 2020. **Acceptance rate:** $\approx 24.9\%$

Camilo, G. F., Rebello, G. A. F., de Souza, L. A. C., Duarte, O. C. M. B., "AutAvailChain: Automatic and Secure Data Availability through Blockchain", in IEEE Global Communications Conference (GLOBECOM 2020), Taipei, Taiwan, December 2020.

Rebello, G. A. F., **Camilo, G. F.**, Silva, L. G. C., Guimarães, L. C. B., Souza, L. A. C., Alvarenga, I. D. and Duarte, O. C. M. B. - "Providing a Sliced, Secure, and Isolated Software Infrastructure of Virtual Functions Through Blockchain Technology", in IEEE International Conference on High Performance Switching and Routing (HPSR 2019), Xi'An, China, May 2019.

JOURNALS

Rebello, G. A. F., **Camilo, G. F.**, Guimarães, L. C. B., de Souza, L. A. C., Thomaz, G. A., Duarte, O. C. M. B. - "A Security and Performance Analysis of Proof-based Consensus Protocols", in Annals of Telecommunications, no. 7, pp. 517-537, 2021.

Guimarães, L. C. B., Rebello, G. A. F., Camilo, G. F., de Souza, L. A. C., Duarte, O. C. M. B. - "A threat monitoring system for intelligent data analytics of network traffic", in Annals of Telecommunications, 2021.

Skills

LANGUAGES

Portuguese (Native), **English** (Fluent - $118/120$ in TOEFL iBT), **French** (Beginner), **German** (Beginner)

PROGRAMMING LANGUAGES

Python, C, C++, Go, Scala, Perl, Lua, SQL Server, VHDL, MATLAB

PLATFORMS & SYSTEMS

Docker, Hyperledger Fabric, Hyperledger Sawtooth, Apache Spark, Sci-kit learn, Ryu Controller, Mininet, OMNET++, Readthedocs, MATLAB, Linux/UNIX, Git, Jupyter, Visual Studio Code