

# JOSÉ EDIL GUIMARÃES DE MEDEIROS

ASSOCIATE PROFESSOR


## CONTACT

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## RELEVANT PROFESSIONAL EXPERIENCE

### UNIVERSIDADE DE BRASÍLIA - UNB

**Associate Professor | February 2018 - Actual**

**Assistant Professor | April 2011 - February 2018**

- Professor at the Electrical Engineering Department (ENE) at the University of Brasília (UnB).
- Relevant courses: Functional Programming with Haskell, Embedded Systems, Microcontroller Programming and Interfacing, Microelectronics, Introduction to Computer Engineering.
- Final Project supervision in functional programming, embedded systems, and the Internet of Things.
- Academic supervisor of Droid, a competitive robotics team.

**Head of the Electrical Engineering Department | July 2020 - April 2022**

- Administrative management of 59 permanent professors and 18 technical personnel. The department offers four engineering programs with around 1400 undergrad students as well as Masters and PhD programs.
- Annual budget proposal and management.
- Representative of the department on the superior counsels of the University.

**Computer Engineering Graduation Program Coordinator | July 2018 - July 2020**

- Coordination of course offerings between the Electrical Engineering Department and the Computer Science Department.
- Supervision of internships.
- Academic and administrative orientation and supervision of undergrad students.

**Computer Engineering Counseling Committee (NDE) | July 2018 - Actual**

**Comm. Networks Engineering Counseling Committee (NDE) | March 2022 - Actual**

- Member of the committee in charge of assessment and continuous improvement (Núcleo Docente Estruturante - NDE) of the Computer Engineering graduation program and of the Communication Networks Engineering graduation program.

### NATIONAL INSTITUTE FOR EDUCATIONAL RESEARCH AND STUDIES ANÍSIO TEIXEIRA - INEP

**Member of the National Committee for Assessment of Computer Engineering Programs | February 2019 - Actual**

- Preparation of the national exam ENADE 2019 and ENADE 2023 guidelines and test matrices for assessing Computer Engineering programs according to the Brazilian federal regulation.
- Review, edition, and approval of questions for the National Bank of Items (BNI).
- Elaboration of response patterns for the ENADE 2019 and ENADE 2023 exams.
- Results analysis and final reports of the committee.

### DFCHIP ELECTRONIC SYSTEMS LTDA

Design house focused on providing high-efficiency, low-power analog semiconductor intellectual property modules.

**Co-founder and Technical Advisor | August 2014 - May 2017**

- Specification of advanced electronics.
- Supervision of the engineering team.
- Relationship with clients and research partners.

### LEADERSHIP DEVELOPMENT INSTITUTE - IFL

The Leadership Development Institute is a Brazilian nonprofit to educate young leaders on business management based on a classical liberal methodology.

**Counsellor - IFL Brasil | April 2021 - December 2021**

- Strategic planning approval of the institution.
- Supervision of the expansion plan to new localities around Brazil.

**President - IFL Brasília | April 2020 - April 2021**

- Administrative and financial management of the Brasília local chapter.
- Strategic planning of the annual actions.

**Communications Director - IFL Brasília | March 2019 - March 2020**

## EDUCATION

### Doctor in Electronic Systems and Automation: Microelectronics

Universidade de Brasília | 2012 - 2017

- Thesis: Unscented Transform Framework for Quantization Modeling in Data Conversion Systems. Available at <https://repositorio.unb.br/handle/10482/31542>
- Visiting researcher at KTH Royal Institute of Technology - Stockholm, Sweden, between October 2016 and September 2017. Project CNPq/CISB/Saab CFP 42/2014: Modeling of Heterogeneous Adaptive Systems for Safety-Critical Avionics Applications using an MoC-based Framework.

### Master in Electrical Engineering

Universidade de Brasília | 2008 - 2010

- Dissertation: SystemC Modeling of a System-on-Chip for Wireless Sensor Network Applications. Developed in Portuguese with the original title Modelagem em SystemC de um Sistema em Chip em Ambiente de Redes de Sensores sem Fio.

### Electrical Engineer

Universidade de Brasília | 2003 - 2007

## RELEVANT PUBLICATIONS

- G. Ungureanu, J. E. G. de Medeiros, T. Sundström, I. Söderquist, A. Åhlander, and I. Sander. *ForSyDe-Atom: Taming Complexity in Cyber Physical System Design with Layers*. ACM Trans. Embed. Comput. Syst. 20, 2, Article 10 (March 2021), 27 pages. doi: <https://doi.org/10.1145/3424667>
- E. Ramalho, E. Peixoto and E. Medeiros, "Silhouette 4D With Context Selection: Lossless Geometry Compression of Dynamic Point Clouds," in *IEEE Signal Processing Letters*, vol. 28, pp. 1660-1664, 2021, DOI: [10.1109/LSP.2021.3102525](https://doi.org/10.1109/LSP.2021.3102525).
- E. Peixoto, E. Medeiros and E. Ramalho, *Silhouette 4d: An Inter-Frame Lossless Geometry Coder Of Dynamic Voxelized Point Clouds*, 2020 IEEE International Conference on Image Processing (ICIP), 2020, pp. 2691-2695, DOI: [10.1109/ICIP40778.2020.9190648](https://doi.org/10.1109/ICIP40778.2020.9190648). IEEE Signal Processing Society Industry Best Paper Award.
- J. E. G. de Medeiros, G. Ungureanu and I. Sander, *An algebra for modeling continuous time systems*, 2018 Design, Automation & Test in Europe Conference & Exhibition (DATE), 2018, pp. 861-864, DOI: [10.23919/DATE.2018.8342126](https://doi.org/10.23919/DATE.2018.8342126).
- G. Ungureanu, J. E. G. de Medeiros and I. Sander, *Bridging discrete and continuous time models with atoms*, 2018 Design, Automation & Test in Europe Conference & Exhibition (DATE), 2018, pp. 277-280, DOI: [10.23919/DATE.2018.8342019](https://doi.org/10.23919/DATE.2018.8342019).
- A complete list is available at <https://orcid.org/0000-0001-6529-0780>.

## DISTINCTIONS

- 2020 SPS Industry Best Paper Award for the paper *Silhouette 4D: An Inter-frame Lossless Geometry Coder of Dynamic Voxelized Point Clouds*; <https://2020.ieeeicip.org/awards/>

## FORMER STUDENTS

- Luiz Gustavo Soares de Sá, Master in Computer Science (co-supervision), *H-calculus: session types for hardware analysis and well-definedness*, June 2021.
- Reinaldo Gutierrez Pimenta, Master in Electrical Engineering (co-supervision), *A transformada da incerteza como método para avaliar a variabilidade de circuitos em tecnologias emergentes*, June 2019.