

João Pedro Peters Barbosa

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BRIEF

Power Systems Electrical Engineer, obtaining bachelor's (2021) and master's (2023) degrees from the Federal University of Juiz de Fora (UFJF), Minas Gerais. He has programming experience in different programming languages and also modeling and simulation skills in software related to Electric Power Systems.

He served as a research student in different projects throughout the undergraduate course and, still as an undergraduate student, carried out an academic exchange semester at Temple University, Philadelphia. During his masters, he developed research in the area of voltage stability considering steady-state analysis of electrical power systems. Currently, he is a doctoral student in Electrical Engineering at the School of Engineering of São Carlos-USP (EESC-USP), where he develops research in the area of stability of electrical power systems.

Adventurous in programming, following software engineering best practices to improve computational skills. He doesn't mind making mistakes and always seeks to promote a safe work environment, valuing collaboration between peers.

SOCIAL

LinkedIn: <https://www.linkedin.com/in/joaoppeters/>

GitHub: <https://www.github.com/joaoppeters>

EXPERIENCES

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| Jun 2023 – now | Graduate Research Assistant @ EESC-USP | São Carlos, SP |
| May 2021 – May 2023 | Graduate Research Assistant @ UFJF | Juiz de Fora, MG |
| | <ul style="list-style-type: none">• Research development on electrical equipment modeling and simulation, considering the Smooth Power Flow formulation and its impacts on the voltage stability of electrical power systems. Article presented, published, and awarded at SBSE2022. | |
| Mar 2020 – Apr 2021 | Undergraduate Research Assistant @ UFJF | Juiz de Fora, MG |
| | <ul style="list-style-type: none">• Research development in the area of Distributed Energy Resources (DERs) to provide new services to the electricity grid.• Research project partnership between UFJF and PETROBRAS. | |
| Aug 2018 – Jul 2019 | Undergraduate Research Assistant @ UFJF | Juiz de Fora, MG |
| | <ul style="list-style-type: none">• Research development in the area of current control in static buck-boost converters connected to the network, applying PID controlling techniques on a laboratory prototype. | |
| Aug 2017 – Jul 2018 | Undergraduate Research Assistant @ UFJF | Juiz de Fora, MG |
| | <ul style="list-style-type: none">• Research development in the area of current control in static converters | |

connected to photovoltaic panel systems. Article presented, published and awarded at COBEP2017.

Aug 2016 – Jul 2017 **Undergraduate Research Assistant @ UFJF** Juiz de Fora, MG

- Research development in the application of sorting methods for MMC modules.

EDUCATION

May 2021 – now **Doctorate Graduate Degree - Power Systems @ EESC-USP** São Carlos, SP

GPA: /4.0

May 2021 – May 2023 **Master Graduate Degree – Energy Systems @ UFJF** Juiz de Fora, MG

GPA: 3.75/4.0

Aug 2015 – Apr 2021 **Power Systems Electrical Engineering Undergraduate Degree @ UFJF** Juiz de Fora, MG

IRA: 78.47/100

Aug 2019 – Dez 2019 **UFJF Academic Exchange Semester @ Temple University** Philadelphia, PA

GPA: 3.74/4.0

Jul 2018 – Dez 2018 **Technical Qualification @ SENAI** Juiz de Fora, MG

SKILLS

Leadership and Teamwork	Microsoft Office, Latex
Organization and Efficiency	Python, MatLab, C, C++
Flexibility and Adaptability	ANAREDE, ANAFAS, ANTEM
Analytical skills	OpenDSS, PSIM, OpenModelica
Problem-solving	Git, GitHub

LANGUAGES

Portuguese	Native	French	Basic
English	Fluent	German	Basic
		Spanish	Basic

CERTIFICATES

2023	Scientific Computing with Python – freeCodeCamp
2021	Graduate Record Examinations (GRE) – Educational Testing Services (ETS)
2021	TOEFL iBT – Educational Testing Services (ETS)
2020	Data Analysis with Python – freeCodeCamp
2020	Introduction to Git and GitHub – Coursera
2019	Modeling and Simulation of Distribution Systems Using OpenDSS – UFJF
2016	Certificate of Advanced English (CAE) – University of Cambridge
2014	First Certificate of English (FCE) – University of Cambridge

REWARDS

2022	Best Article Master's Category	IX Simpósio Brasileiro de Sistemas Elétricos (SBSE)
	Avaliação e aprimoramento de metodologias para representação de CER no problema de fluxo de potência	
2017	Best Article Undergraduate's Category	XIV Congresso Brasileiro de Eletrônica de Potência (COBEP)
	Design and implementation of a predictive current controller applied to regulate a battery bank's power flow connected to a DC microgrid	
2016	Best Article Undergraduate's Category	XXII Seminário de Iniciação Científica da UFJF (SEMIC/UFJF)
	Síntese de conversores MMC para aplicação em sistemas de geração fotovoltaicos e sistemas de transmissão em corrente contínua	

SCIENTIFIC PUBLICATIONS

2022	Avaliação e aprimoramento de metodologias para representação de CER no problema de fluxo de potência	IX Simpósio Brasileiro de Sistemas Elétricos (SBSE)
2020	Síntese de conversores MMC para aplicação em sistemas de geração fotovoltaicos e sistemas de transmissão em corrente contínua	PRINCIPIA, v.19

2017	Design and implementation of a predictive current controller applied to regulate a battery bank's power flow connected to a DC microgrid	XIV Congresso Brasileiro de Eletrônica de Potência (COBEP)
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PROJECTS

PyANA: development of Python code to support students and researchers in studies of steady state analysis of electrical power systems, based on reading data from ANAREDE files.

INTERESTS

Electrical Power Systems: static and transient analysis, voltage stability, mathematical modeling of electrical equipment, operation, optimization, planning, distributed energy resources

Computational Programming: online learning, reinforcement learning, optimization techniques, software engineering best practices, open-source project development, machine learning, artificial intelligence

OTHER RELEVANT INFORMATION

- Member of the IEEE Power and Energy Society (IEEE PES) since 2023
- Member of the Sociedade Brasileira de Automática (SBA) since 2022
- Member of the Conselho Regional de Engenharia e Agronomia de Minas Gerais (CREA-MG) since 2021
- Member of the Institute of Electrical and Electronics Engineers (IEEE) since 2020