João Pedro Peters Barbosa

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. He is currently pursuing Doctorate degree opportunities.

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

May 2021 – May 2023 **Graduate Research Assistant, UFJF** Juiz de Fora, MG

• 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. Paper presented, published, and awarded at SBSE2022.

Mar 2020 – Apr 2021 **Undergraduate Research Assistant, UFJF** Juiz de Fora, MG

• 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

• 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

• Research development in the area of current control in static converters connected to photovoltaic panel systems. Article published in IEEEXplore magazine and awarded project 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 – May 2023 **Masters in Science – Energy Systems, UFJF** Juiz de Fora, MG

GPA: 3.75/4.0

Aug 2015 – Apr 2021 **Power Systems Electrical Engineering Undergraduate, 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

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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)

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