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Top Skills

Git
GitHub
Network Security

Certifications

Microsoft Power BI para Business Intelligence e Data Science
Imersão Dev
Intensivão Power BI
Fundamentos de teste
Fundamentals of Software Testing

Vitória Pistori Guimarães

Data Scientist | Software Developer
Pongaí, São Paulo, Brazil

Summary

Software Developer | Data Analyst
With a background in Environmental Engineering, I am currently studying Systems Analysis and Development, combining my expertise in data analysis, software development, and problem-solving to create innovative solutions. My multidisciplinary profile allows me to adapt quickly, tackle new challenges, and contribute to impactful projects while continuously growing as a developer.

My Journey
I started my career in data analysis and process optimization, working in electrochemical laboratory research and environmental engineering projects. I developed data-driven methodologies to quantify in situ reacted carbon dioxide, handling data extraction, processing, and mathematical modeling using Python and scientific computing tools.
Beyond research, I gained experience in project management and automation, working as an assistant in a municipal department and a volunteer environmental consultant. These roles reinforced my ability to streamline workflows, develop digital solutions, and enhance data-driven decision-making.
Motivated by my passion for technology, I transitioned into Software Development and Data Science, applying my analytical skills to build scalable and efficient solutions. My focus now is on full-stack development, data engineering, and automation, integrating software development with data-driven strategies.

Technical Skills
Programming Languages: Python, R, SQL, JavaScript
Data Analysis & Manipulation: Pandas, NumPy, Scikit-learn, Statsmodels
Data Visualization: Plotly, Matplotlib, Power BI
Web Development & Software Engineering: HTML, CSS, JavaScript, Node.js, React
Cloud & Infrastructure: Docker, AWS

Design & Technical Modeling: Adobe Photoshop, Illustrator, AutoCAD

Career Goals
To establish myself as a Software Developer specializing in data-driven solutions, combining development, analytics, and automation to create impactful applications.
To continuously expand my technical expertise in full-stack development, cloud computing, and machine learning, integrating data science with software engineering.
To inspire others by sharing my journey, proving that career transitions are possible through learning, adaptability, and resilience.

Projects & Collaborations
Check out my work on GitHub: https://github.com/vitoriapguimaraes

Experience

Instituto de Pesquisas ELDORADO
Data Scientist
May 2025 - Present (2 months)

FAPESP
Master’s Research Student
March 2019 - November 2021 (2 years 9 months)
São Carlos, São Paulo, Brazil

Situation: During my master's degree, I developed a project focused on the electrochemical reduction of carbon dioxide (CO_2RR), a promising process for mitigating CO_2 emissions into the atmosphere. The study used nitrogen-doped carbon-based electrocatalysts containing iron (Fe/C-N). This project required the collection of large volumes of real-time experimental data, which involved several challenges related to the accuracy and analysis of the generated data.

Task: My main responsibility was to conduct electrochemical experiments to evaluate the performance of the catalysts in CO_2RR, focusing on the accuracy of data collection and analysis. I was also responsible for interpreting the results to determine the impact of iron dispersion and content on the reaction's selectivity and to optimize the experimental conditions.

Action:

- Synthesized materials in the laboratory;
- Characterized the catalysts;
- Data Collection: Performed cyclic voltammetry tests using a rotating ring-disk electrode (RRDE) to identify reaction products;
- Experimental System Optimization: Made adjustments to the measurement system, including treating the electrolyte with ion-exchange resin to stabilize conditions and replicate results;
- Data Analysis: Processed experimental data using Python and employed Origin software to visualize trends and identify patterns;
- Results Interpretation: Applied statistical analyses and faradaic efficiency (FE) calculations to determine the specificity of the catalytic material, highlighting that the sample with 1% Fe showed better activity and higher selectivity for the formate ion.

Result: The results demonstrated that the iron content and its dispersion directly influence the selectivity of CO_2RR. Materials with a lower Fe content (1%) exhibited higher faradaic efficiency and selectivity towards the formate ion. This work contributed to new directions in the optimization of electrocatalysts and advances in sustainable energy research.

Municipal Department of Environment of Araçatuba (SMMAS)

Intern

October 2018 - November 2018 (2 months)

Araçatuba, São Paulo, Brazil

Project: Environmental Management and Education Activities at the Municipal Secretariat for the Environment

Context: During my internship at the Municipal Secretariat for the Environment and Sustainability (SMMAS), I worked on administrative, technical, and operational activities aligned with environmental legislation, focusing on environmental management and education.

Responsibilities: I was responsible for overseeing environmental management activities, automating the monitoring of the Abrace o Verde program, developing environmental education materials, accompanying school visits to conservation areas, and preparing technical reports on environmental inspections.

Actions:

- Environmental Program Management: Developed a system to monitor the Abrace o Verde program using an online Google spreadsheet, optimizing the tracking of public green spaces and adopters, and created an official list of registered pruners.
- Environmental Education: Accompanied school groups on ecological trails, promoting environmental awareness.
- Supervision and Technical Reports: Conducted vegetation suppression inspections with the technical team, drafting reports that assessed tree conditions, urban infrastructure presence, and compliance with legal criteria for approval or denial of suppression requests.
- Compliance and Environmental Certification: Reviewed reports for the Município VerdeAzul program and prepared materials on black smoke emissions control for public vehicles.

Results: Contributed to improving administrative and technical processes, ensuring compliance with legislation, optimizing environmental program monitoring, and promoting environmental awareness. The experience brought advancements to the Município VerdeAzul program and had a positive impact on youth environmental education through ecological trails.

CNPq
Student Researcher
December 2017 - November 2018 (1 year)
Buri, São Paulo, Brazil

Project: Development of Binary Materials for the Electrochemical Oxidation of Formate for Sustainable Energy Generation.

Objective: Synthesized and applied palladium (Pd) nanoparticle-based electrocatalysts supported on Vulcan XC72 carbon and P25 titanium dioxide (TiO_2) to optimize the electrochemical oxidation of formate in alkaline media for fuel cell applications.

Key Responsibilities:
- Material Synthesis & Preparation: Developed electrocatalysts using different Pd reduction methodologies, including sodium borohydride.
- Advanced Characterization: Analyzed structural and morphological properties, identifying Pd face-centered cubic phases and TiO_2 anatase and rutile phases with particle sizes between 3.7 and 7.9 nm.

- Electrochemical Analysis: Evaluated formate oxidation kinetics through cyclic voltammetry and chronoamperometry, assessing catalyst performance in direct formate fuel cells.
- Data Interpretation & Optimization: Identified that Pd/C+TiO_2 (75:25) exhibited the highest efficiency in fuel cells, balancing electrical conductivity and oxygen species contribution.

Outcome: Demonstrated the critical influence of the carbon-to-TiO_2 ratio on formate oxidation efficiency, providing valuable insights for clean and sustainable energy technologies in fuel cell applications.

LS Consultoria Júnior
Founder & Environmental Project Manager
August 2016 - December 2017 (1 year 5 months)
Buri, São Paulo, Brazil

- Company creation
- Development of partnerships and initial projects

PIBIC
Student Researcher
August 2015 - July 2016 (1 year)
Buri, São Paulo, Brazil

- Project: Forest restoration in a Permanent Preservation Area at Fazenda Lagoa do Sino – Reforestation data analysis

Education

Universidade de São Paulo
Master of Science, Physical Chemistry · (March 2019 - December 2021)

UFSCar - Universidade Federal de São Carlos
Bachelor of Engineering, Environmental Engineering · (March 2014 - December 2018)

Descomplica Faculdade Digital
Systems Analysis and Development, Information Technology · (December 2024 - June 2027)