Victor Santos Galvão Baptista

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SUMMARY

Junior Fullstack Developer with experience in developing web and mobile solutions using React, Node.js, and machine learning. Familiar with process automation using AutoHotkey and Python, as well as system integration in government environments. Also has experience in data analysis and supporting environmental projects, with publications in specialized journals. Proficient in English, with 1 year of academic exchange in the United Kingdom.

PROFESSIONAL EXPERIENCE IN SOFTWARE DEVELOPMENT

Fullstack Developer (Web and Mobile) Programa Água Doce Paraíba *(17 months between Jul/22 - Dec/24)*

- **Frontend:** Designed and developed the graphical interface of the PAD/PB website (aguadoce.seirh.pb.gov.br) using a Single Page Application (SPA) architecture, utilizing TypeScript and React.
- **Backend:** Optimized the schema of an existing database and developed the server as a RESTful API using Node.js. Published and configured the server in a government environment through a remote Linux terminal (Apache Guacamole).
- **Mobile:** Developed a React Native application containing two tools for product dosage calculation in PAD/PB water desalination systems:
  - Chlorine Dosage: Ensured compliance with Portaria GM/MS Nº 888/2021, using customized data for each system.
  - Antiscalant Dosage: Integrated a predictive model based on machine learning (Extra Trees Random Forest, scikit-learn), trained with over a thousand physical-chemical water quality analysis reports from the Semi-arid region of Paraíba. The solution replaced proprietary software, optimizing the process and ensuring efficiency in estimating the required product concentration based on specific quality parameters.
- These responsibilities helped me gain experience in scripting for various solutions, including:
  - Optical Character Recognition (OCR): Extracting data from images for spreadsheet processing (Python).
  - Data Tabulation and Preprocessing: Training and analyzing various prediction models (Python).
  - Process Automation: Automating the estimation process for antiscalant dosage in water quality reports using Winflows software (AutoHotkey). The solution optimized workflow, reducing manual processing time and ensuring greater accuracy in calculations based on system-specific parameters.

OTHER PROFESSIONAL EXPERIENCES

Researcher SMART-Control Consortium and Federal University of Paraíba *(June 2018 - September 2020)*

- Actively contributed to risk analysis at various stages of a pilot aquifer recharge project.
- Organized field studies on managed aquifer recharge in Recife and João Pessoa, facilitating master's research for students from the Technical University of Berlin and the Federal University of Paraíba.
- Published the results in the Journal of Environmental Management (https://doi.org/10.1016/j.jenvman.2023.118034).

Civil Engineer IBI Engenharia Consultiva S/S *(May 2019 - January 2020)*

- Contributed to the update of the State Water Resources Plan, published in March 2022 (http://www.aesa.pb.gov.br/aesa-website/documentos/plano-estadual/atualizacao-perh/), writing and executing VBA scripts for the update of strategic reservoirs and dam regulation curves.

EDUCATION AND PROFESSIONAL DEVELOPMENT

Fullstack Web Developer Rocketseat Explorer Program *(March 2022 - March 2023)*

- Completed a 100-hour program covering web fundamentals and advanced topics, culminating in the development of a RESTful API with a backend built in Node.js and frontend developed with React.

Introduction to Computer Science Harvard's CS50 in Brazil by Fundação Estudar *(May 2022)*

- Completed a program covering basic programming concepts, C language, arrays, algorithms, memory, data structures, Python, SQL, HTML, CSS, JavaScript, Flask, and Ethics.

Artificial Intelligence Huawei HCIA Certification Training (June 2021)

- Completed a 40-hour program introducing fundamental concepts of artificial intelligence, with a focus on technology promoted by Huawei.

Master's in Civil and Environmental Engineering Federal University of Paraíba *(April 2018 - September 2020)*

- Conducted scientific research involving fieldwork and computational simulations combining two areas of Environmental Engineering: Sustainable Urban Drainage and Managed Aquifer Recharge.
- The research involved data processing and hydraulic simulation using Python.

Bachelor's in Civil Engineering Federal University of Paraíba *(August 2010 - December 2016)*

- Concluded with scientific research combining two fields of engineering:
  https://www.scielo.br/j/rbrh/a/JNVYQQLVWvGygRMSmZChpjL/

Tools I have experience with   *January 2025*

- Excel, Git, GitHub, VSCode, Beekeeper Studio, Insomnia, Miro, Kanbanflow, Inkscape