Paulo Cilas M. Lyra-Jr, Ph.D.

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SKILLS

Programming Languages: C#, R, Python, and JavaScript.
Database systems: MongoDB, Elasticsearch, MySQL, and MS SQL server.
Tools and Technologies: Git, Unix/Bash, Docker, Apache Airflow, AWS, and Azure.
Architectures: MVC, API, microservice, monolith, and WEB Crawler.
Frameworks and Libraries: ASP.NET, Entity framework, jQuery, Bootstrap, Plumber, Next.js, Flask, FastAPI, Alembic, SQLAlchemy, Scrapy, Selenium, and Beautifulsoup.

Microsoft Certified: Azure Data Scientist Associate, Security, Compliance, and Identity Fundamentals, Azure Fundamentals, Azure Data Fundamentals, Azure AI Fundamentals.
Databricks Certified: Generative AI Fundamentals, Lakehouse Fundamentals.

WORK EXPERIENCE

Postdoctoral Fellow (Moffitt Cancer Center, Tampa – USA)
2022/Sep – Current

- Designed and implemented a user interface that seamlessly integrates the Iterative Rank-Order Normalization of Gene Expression Microarray Data (IRON) pipeline, enhancing usability and efficiency for researchers and scientists as part of the Bio-Data Club's 4th Annual Hackathon at Moffitt Cancer Center.
- Developed a Python-based tool to retrieve patient data for validating and correcting variant nomenclatures inputted by clinicians, ensuring the accuracy and reliability of clinical data.
- Generated circular layout figures, ideal for exploring relationships between objects or positions, using Circos software to enhance data visualization.

Backend developer (ISH tecnologia – Agile Remote Environment)
2022/Jan – 2022/Sep

- Implemented an ETL solution that continuously analyzes large and combined datasets to detect specific events in the dark web and deep web, while maintaining a high level of customer service.
- Developed complex queries in response to client requirements, enabling the feeding of a dashboard through an API for real-time viewing of status updates for captured data elements.
- Took responsibility for improving the query efficiency and indexing performance of the ElasticSearch database.

Full stack developer (ASP .NET) (ENIGMA international consortium data - Remote Environment)
2020/Jan – 2022/Jun

- Utilized a robust technology stack to query, tidy, and summarize research data, facilitating effortless manipulation and visualization. Designed and implemented a user-friendly interface for effectively conveying data-driven insights to cancer investigators.

Postdoctoral Fellow (Federal University of Espirito Santo, Vitoria – Brazil)
2018/Aug – 2019/Dec

- Developed and utilized an R script to perform data mining, aggregation, wrangling, and classification for research published in Genetics in Medicine.

Clinical pharmacist (Evangelico de Vila Velha Hospital, Vila Velha – Brazil)
2017/Nov – 2018/Aug

- Ensured strict confidentiality of patient health information, maintaining compliance with regulatory standards and data protection protocols.
- Accurately and promptly complete patient charts, paperwork, and reports within the system.

EDUCATION

Ph.D. Biotechnology. 2014/Feb – 2018/Mar.
Moffitt Cancer Center, USA / Federal University of Espirito Santo, Vitoria - Brazil.

M.Sc. Biotechnology. 2011/Aug – 2013/Nov.
Federal University of Espirito Santo, Vitoria - Brazil.

B.Sc. Pharmacy. 2007/Fev – 2011/Jul.
University of Santa Casa de Misericordia, Vitoria - Brazil.

PUBLICATIONS

1. Zipinotti Dos Santos D, de Souza JC, Pimenta TM, Martins BS, Ribeiro Junior RS, Butzene SMS, Tessarolo NG, **Lyra-Jr PC** et al. The impact of lipid metabolism on breast cancer: a review about its role in tumorigenesis and immune escape. Cell Commun Signal. 2023 Jun. DOI: 10.1186/s12964-023-01178-1.
2. Fasching PA, Liu D, Scully S, Ingle JN, **Lyra-Jr PC**, Rack B, Hein A, Ekici A B, Reis A, Schneeweiss A, Tesch H, Fehm TN, Heinrich G, Beckmann MW, Ruebner M, Huebner H, Lambrechts D, Madden E, Shen J, Room J, Doheny K, Jenkins GD, Carlson EE, Li l, Fridley BL et al. Identification of two genetic loci associated with leukopenia after chemotherapy in Breast Cancer Patients. Clin Can Res. 2022 Aug. DOI: 10.1158/1078-0432.CCR-20-4774.
3. Mendoza-Fandiño G, **Lyra-Jr PC**, Nepomuceno TC, Harro CM, Woods NT, Li X, Rangel LB, Carvalho MA, Couch FJ, Monteiro ANA. Two distinct mechanisms underlie estrogen-receptor-negative breast cancer susceptibility at the 2p23.2 locus. Eur J Hum Genet. 2021 Nov. DOI: 10.1038/s41431-021-01005-6.
4. Henriques TB, dos Santos DZ, Guimarães IS, Tessarollo NG, **Lyra-Jr PC**, Mesquita P, Pádua D, Amaral AL, Cavadas B, Pereira L, Silva IV, Almeida RMSG, Rangel LBA. Inhibition of CXCR2 plays a pivotal role in re-sensitizing ovarian cancer to cisplatin treatment. Aging. 2021 May. DOI: 10.18632/aging.203074.
5. **Lyra-Jr PC**, Nepomuceno TC, de Souza MLM, Machado GF, Veloso MF, Henriques TB, dos Santos DZ, Ribeiro IG, Ribeiro-Jr RSR, Rangel LBA, Richardson M, Iversen ES, Goldgar D, Couch FJ, Carvalho MA, Monteiro ANA. Integration of functional assay data results provides strong evidence for classification of hundreds of BRCA1 variants of uncertain significance. Genet Med. 2020 Oct. DOI: 10.1038/s41436-020-00991-0.
6. **Lyra-Jr PC**, Rangel LBA, Monteiro ANA. Functional landscape of common variants associated with susceptibility to epithelial ovarian cancer. Curr Epidemiol Rep. 2020 Jan. DOI: 10.1007/s40471-020-00227-4.
7. Gusev A, Lawrenson K, Lin X, **Lyra-Jr PC**, Kar S, Vavra KC, Segato F, Fonseca MAS, Lee JM, Pejovic T, Liu G, Ovarian Cancer Association Consortium, Karlan BY, Freedman ML, Noushmehr H, Monteiro ANA, Pharoah PDP, Pasaniuc B, Gayther SA. A transcriptome-wide association study of high grade serous epithelial ovarian cancer identifies new susceptibility genes and splice variants. Nat Genet. 2019 May. DOI: 10.1038/s41588-019-0395-x.
8. Buckley MA, Woods NT, Tyrer JP, Mendoza-Fandiño G, Lawrenson K, Hazelett DJ, Najafabadi HS, Gjyshi A, Carvalho RS, **Lyra-Jr PC**, Coetzee SG, Shen HC, Yang AW, Earp MA, Yoder SJ, Risch H, Chenevix-Trench G, Ramus SJ, Phelan CM, Coetzee GA, Noushmehr H, Hughes TR, Sellers TA, Goode EL, Pharoah PDP, Gayther SA, Monteiro ANA. Functional analysis and fine mapping of the 9p22.2 ovarian cancer susceptibility locus. Cancer Res. 2019 Feb 1. DOI: 10.1158/0008-5472.CAN-17-3864.
9. Phelan CM, Kuchenbaecker KB, Tyrer JP, Kar SP, Lawrenson K, Winham SJ, Dennis J, Pirie A, Riggan MJ, Chornokur G, Earp MA, **Lyra-Jr PC** … Gayther SA, Antoniou AC, Pharoah PDP. Identification of 12 new susceptibility loci for different histotypes of epithelial ovarian cancer. Nat Genet. 2017 May. DOI: 10.1038/ng.3826.

Reference Name	Position	Email
Dr. Alvaro Monteiro	Senior Research Member (Moffitt Cancer Center)	Alvaro.Monteiro@moffitt.org
Odair Gonçalves	Innovation Manager/Supervisor (Safelabs – ISH tecnologia)	ogoncalvesjr@outlook.com
Dr. Leticia Rangel	Full professor and Investigator (Federal University of Espirto Santo)	lbarangel@yahoo.com