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

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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.
- Developed and deployed a Python-based tool utilizing Scrapy to validate and correct variant nomenclatures inputted by clinicians, ensuring accuracy and consistency in the data.

Backend developer (ISH tecnologia, Vitoria – Brazil)

2022/Jan – 2022/Sep

- Implementation of a Digital Risk Protection (DRP) solution that keeps watch across the entire technological ocean, from the surface to the dark web.
- Developed an API to create a dashboard to view real time status of events collected from DRP. Designed and implemented a scalable architecture and ensuring reliability and efficient execution of the tasks.

Full stack developer (ENIGMA international consortium)

2020/Jan – 2022/Jun

- Leveraged a powerful technology stack to develop a robust platform that enables seamless manipulation and visualization of data. Designed and implemented a user-friendly interface that allows users to efficiently interact with and explore diverse datasets, facilitating a deeper understanding of missense variants in BRCA1 and BRCA2.

Postdoctoral Fellow (Federal University of Espirito Santo, Vitoria – Brazil)

2018/Aug – 2019/Dec

- Script generated as part of the article entitled: "Integration of functional assay data results provides strong evidence for classification of hundreds of BRCA1 variants of uncertain significance"

EDUCATION

2014 – 2018 Ph.D. Biotechnology - Moffitt Cancer Center, USA / Federal University of Espirito Santo, Vitoria - Brazil.
2011 – 2013 M.Sc. Biotechnology - Federal University of Espirito Santo, Vitoria - Brazil.
2007 – 2011 B.Sc. Pharmacy - University of Santa Casa de Misericordia, Vitoria - Brazil.

SKILLS

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

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.

Book Editor: 1
Book chapters: 6
Certifications: 16