JOHN LENNON L. CALORIO, MSc(cand.)

Clinical and Health Data Science | Bioinformatics | Statistics | Applied Mathematics

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SUMMARY

Health Data Scientist and Statistical Programmer with over seven years of experience in clinical and public health research, including COVID-19, dengue, postpartum depression, and childhood stunting studies. Skilled in developing reproducible data pipelines and R packages for regulated research environments using R, Quarto, and tidyverse. Optimized data analytics workflow by 70%. Increased revenue for a medical school's Center for R&D by 100% in 2025.

EDUCATION

Honorary Visiting Research Associate
School of Mathematics, University of Bristol

MS in Applied Mathematical Sciences (ongoing)
University of Science and Technology of Southern Philippines

Google Data Analytics Professional Certification
Google

BS in Applied Mathematics
University of Science and Technology of Southern Philippines

EXPERIENCE

BIOINFORMATICIAN & SENIOR STATISTICIAN

Davao Medical School Foundation, Inc. | 2023 - Present

The Center for Research and Development is the institution's hub for promoting, supporting, and managing research and innovation activities on top of housing DOST-PCHRD funded clinical projects.
- Developed and documented reproducible analysis pipelines (Quarto/R Markdown) to model high-dimensional metabolomics/metagenomics data from advanced QTOF mass spectrometry, applying methods including PCA, OPLS-DA, ANOVA, AUROC, and regularized regression (Ridge/LASSO/Elastic Net).
- Built R packages for above-mentioned frameworks to optimize workflow by 70%.
- Led statistical design and analysis across medical and research teams in clinical data environments inside the institution (student, faculty, and in/external funded projects).
- Managed editorial workflows as Managing Editor for two peer-reviewed journals (RJ-DMSFI, Health Sciences Mindanao): triage, reviewer coordination, revisions, proofing, publication.
- Presented research in international conferences for Decision Science, Mathematical Biology, Biochemistry, and Molecular Biology.

UNIVERSITY RESEARCH ASSOCIATE II - QUANTITATIVE RISK MODELER

Mapúa Malayan Colleges Mindanao, Davao City | 2022-2023
Mindanao Center for Disease Watch and Analytics - RESILIEMC

The sub-project, RESILIEMC, built a novel risk modeling framework for COVID-19 integrating the Bowtie method and decision science to support data-driven decision-making for public health and safety
- Led the development the Bowtie and AHP Model in R
- Managed survey deployment and stakeholder coordination (online/in-person) across municipalities in Mindanao,
- Built and managed databases, data pre-processing framwork, and the models for the AHP & AHP-Bowtie analyses
- Prepared research papers and presented progress.

BUDGET COST MANAGEMENT ANALYST

Olison Corporation, Misamis Oriental | 2018-2022

- Managed the company's multimillion (~PHP 400M per year) yearly budget-expense utilization across several construction projects
- Developed automated Excel systems that replaced manual, repetitive processes which resulted to a decrease in turnaround time by 90% and improved data accuracy.

SKILLSET

Programming & Software
R, Python, VBA (Excel), Power BI, SPSS, jamovi, G*Power, Git, BowTieXP

R Ecosystem
tidyverse (ggplot2, dplyr, tidyr, purrr), mixOmics, caret, glmnet, Shiny, Quarto

Python Ecosystem
pandas, NumPy, scikit-learn, seaborn, geopandas, lingpy

Statistical Methods
t-test, ANOVA, Chi-square, PCA, PLS-DA/OPLS-DA, AUROC, fold change, ridge/LASSO/elastic net, linear & logistic regression

REGULATORY READINESS

Good Clinical Practice Certification
NIDA Clinical Trials Network, 2023-2026

AWARDS & ACHIEVEMENTS

2nd Place, TL Saaty Global Hackathon 2024
issued by the **Creative Decisions Foundation** and organized by The Wharton School of the University of Pennsylvania
Entry: Ethical Decision Modeling for Autonomous Vehicles

Employee Role Model Award 2024
issued by the **Davao Medical Foundation Inc.** to recognize the most outstanding employees in terms of behavior and leadership

SELECTED PROJECTS SELECTED PROJECTS

MetabolomicStatR
Pipeline for high-dimensional metabolomics data: preprocessing (imputation, drift/batch correction, normalization), PCA/OPLS-DA, t-test/ANOVA AUROC, LASSO/Elastic Net/logistic regression.

MetagenomicStatR
Pipeline for high-dimensional metagenomics data: preprocessing (transformation, normalization), PCoA, logistic regression.

Ethical Decision Modeling for Autonomous Vehicles
An Analytic Hierarchy Process (AHP) model using Python's *AhpAnpLib* to resolve ethical dilemmas in autonomous vehicle decision-making involving encounters with emergency medical vehicles.

OCSEAN Linguistics Data Pre-processing Pipeline
Pipeline for pre-processing language datasets using *lingpy* to map evolution of Austronesian languages to integrate linguistics data from archaeology, biological anthropology, and genomics

PEER-REVIEWED PUBLICATION

- Risk modeling with Bowtie method for decision-making towards public health and safety (Safety Science, Elsevier, 2025)