Al Rey Villagracia

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Professional Summary

- Delivered Physics and data science instruction and mentorship using MATLAB, Python, R, and Excel supporting projects in wrangling, analysis, machine learning, and visualization culminating in 67 scientific research publications indexed in reputable journals.
- Conducted analytical research using experimental design and large dataset interpretation, generating insights that contributed to 67 peer-reviewed publications.
- Effective leadership, communication, organization and management skills in scheduling and ensuring 100% compliance with policies and accountability toward academic and industry trends.
- Volunteered for 5+ years in A/V system repair, ensuring 100% functionality, and consistently delivered high-rated customer service in insurance with monthly positive feedback.

Tech Stack & Skills

Languages:	SQL, Python (Pandas, Numpy, Matplotlib, Plotly, Dash, Scikit learn, Selenium), R, ForTran, MatLab, C, Bash, Visual Basic
Operating Systems:	Windows/Linux/OS X
Software, Application & Tools:	IBM Watson Studio, IBM Cognos Analytic, Jupyter Notebook, Google Colab, Tableau, Azure, Github, Microsoft 365, VASP, Quantum Espresso
Databases:	SQLite, MySQL, RDBMS
Cloud Computing:	Microsoft Azure, IBM Cloud, Cloud Data Storage Systems
Project Management Fundamentals:	Agile, Waterfall, Scrum, Kanban, Trello, Slack
Skills:	Data Cleaning, Data Wrangling, Data visualization and dashboarding, Data engineering, statistical modelling, Linear regression, LLMs, Generative AI, predictive analytics, Storytelling, Web scraping, critical thinking, teamwork, creativity, time management, natural language processing, deep learning, A/B Testing, ETL Processes, Data Extractions

Projects

Python-based Faculty-Course Scheduling **Sep 2022 – Aug 2024**

- Developed a Python application for data analysis and to automate course-faculty matching based on availability and schedule.
- Improved scheduling efficiency, resolving 100% of prior manual allocation conflicts.

Quantum Espresso Cluster Automated CIF Job Submission **Sep 2021 – Aug 2023**

- Created Bash and Python Scripts for CIF auto conversion, input files generation, and job submission for running Quantum Espresso in Clusters and auto property calculations and visualization
- Analyzed calculated properties of new materials for different technological applications, and published research articles

Education & Certifications

Junior Data Analyst Program **May 2025**
NPower Canada| Edmonton, Alberta, CA

Microsoft Azure AI-900 Certificate: LINK **May 2025**

Coursera IBM Data Analyst Professional Certificate: LINK **Apr 2025**

Applied Data Science II: Machine Learning & Statistical Analysis (w/honors): LINK **Dec 2021**
WorldQuant University| Washington DC, USA

MSc Financial Engineering: LINK **Jul 2021**
WorldQuant University| Washington DC, USA

Applied Data Science I: Scientific Computing & Python (w/honors): LINK **Mar 2020**
WorldQuant University| Washington DC, USA

PhD Physics with specialization in Computational Physics: LINK **Sep 2010**
De La Salle University| Manila, Philippines

BSEd Mathematics and BS Physics: LINK **Sep 2005**
with specialization in Computer Applications (Magna Cum Laude)
De La Salle University| Manila, Philippines

Professional Experience

Professor and Research Faculty **May 2011 –**
De La Salle University | Manila, Philippines

- Taught foundational and computational courses in Physics, Computer Science, Data Analytics, and Engineering to over 1,000 undergraduate and graduate students with code developments across programming languages to solve problems with attention to detail, achieving 100% 'very satisfactory' evaluation scores.
- Led and co-authored 67 peer-reviewed publications through collaborative data-driven research with 91 national and international researchers.

Vice Chair, Department of Physics **Sep 2022 –**
De La Salle University | Manila, Philippines

- Collaborated with the department chair in managing the department and demonstrated decision-making skills ensuring data quality with a 100% 'very satisfactory' evaluation score each year.
- Streamlined course scheduling and introduced visualizations of department load distribution and data-driven insights, making decisions that resolved 100% of faculty scheduling issues and reducing student enrolment complaints by 98%.
- Meticulously organized the academic department's documents about teaching to facilitate timely submissions.
- Evaluated and approved 100+ student requests on course offerings with 100% on time.

Graduate Programs Coordinator, Department of Physics **Sep 2019 – Aug 2022**
De La Salle University | Manila, Philippines

- Effectively manage graduate programs, ensuring regulatory compliance and consistently achieving 100% "very satisfactory" annual evaluations, demonstrating strong teamwork and collaboration skills
- Reviewed applications, created individualized study plans, and implemented a learning system and online written comprehensive exams, boosting graduation rates by 20%.
- Revised graduate program catalogue and policies to enhance transparency and accountability, resulting in a 90% reduction in student issues.

USAID Postdoctoral Fellow, Agricultural and Biosystems Engineering **Apr 2017 – Dec 2017**
University of Arizona, Tucson, Arizona, USA

- Delivered 2 presentations in international conferences on molecular dynamics studies on membrane simulations for microalgae drying

USAID Postdoctoral Fellow, Department of Chemistry **Jan 2018 – Mar 2018**
University of Florida, Gainesville, Florida, USA

- Developed a molecular dynamics tutorial solution for using AMBER software