Michelle Kae Celine Jo-anne Bantugon

Data Scientist

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Work Experience

Data Analyst

Jun 2024 - Present

Project Management Institute | *San Francisco Bay Area*

- Improved data quality and insights by cleaning and analyzing of company data using Python, resulting in a more accurate and comprehensive database for decision-making
- Enhanced real-time performance monitoring by developing interactive Tableau dashboards, tracking key metrics such as retention rates and mentor-mentee ratios over a 5-year period
- Increased understanding of stakeholder satisfaction by implementing sentiment analysis on feedback and testimonials using R, providing quantitative insights into qualitative data across multiple years

Lead Process Automation Engineer

Mar 2019 - Aug 2023

JG Summit Olefins Corporation | *Batangas, Philippines*

- Reduced production downtime by 1.65 hours per incident, recovering 41 metric tons of production, by designing and implementing an automatic shutdown and redundancy system for pumps A and B
- Boosted abnormal detection rates by 18% in one month by serving as Agile Project Owner, leading a cross - functional team of 4 engineers to develop a high-performing, user-friendly graphical interface with clear visualizations, conducting comprehensive pre - and post-implementation assessments, and executing strategic planning
- Decreased manual tasks and errors by 10% through automating alarm configuration toggling during specific processes, streamlining backflow handling procedures
- Eliminated 31% and 57% of alarms in 3 key plants through leading alarm performance improvements, implementing process enhancements, facilitating cross-functional meetings, conducting daily monitoring, and generating technical reports and dashboards
- Slashed operational losses by 30% across 4 plants by spearheading development of a High-Performance Human Machine Interface (HPHMI) for KPI monitoring, leveraging VB Script and Graphics Editor within an Agile framework
- Increased system uptime to 95% by developing automated testing and deployment scripts using VB Script, implementing rigorous code reviews, and adhering to industry best practices
- Enhanced operational efficiency by establishing a fully functional control station, including OS installation, network configuration (IP setup, hardwiring to switches), and implementing customized user access and security protocols

Core Skills

Python, R, SQL, NoSQL, Tableau, MongoDB, Machine Learning, Statistical Analysis, Dataiku, C++, HTML / CSS, VBScript, Distributed System, Agile, SAP, Visio, SCADA, PLC, AutoCAD, Adaptability, Communication, Cross-functional, Leadership

Education

Hult International Business School

Sep 2023 - Aug 2024

Master of Science in Business Analytics GPA: 3.77/4.0

Batangas State University (ABET-Accredited)

Jun 2013 - Jun 2018

Bachelor of Science in Chemical Engineering

Languages

English *(fluent)*, **Spanish** *(beginner)*, **Tagalog** *(fluent)*

Certificates

SQL Certificate *(HackerRank)*
GenAI Hackathon 3rd Place Awardee *(Scale AI)*
NGL Let's Jam Challenge 2nd Place Awardee *(PMI SFBAC)*

Data Analytics Projects

Storm Damage Assessment using AI (EY 2024 Open Data Science Challenge) Apr 2024

- Implemented a YOLO machine learning model over 50 epochs, achieving a mean Average Precision of 0.725. Individually transformed and interpreted the multi-class confusion matrix, showing a trend of higher performance in identifying damaged buildings.
- Top three actionable insights include advocate for hurricane-proof buildings especially in the rural areas, integration of green and grey infrastructure with natural coastal habitats and implementing structural and non-structural measures to calm waves, reduce wave energy, and stabilize the coastline.

Apr 2024

Facebook Live Data Using Python (Unsupervised, Customer Segmentation, PCA & K-Means)

- Developed logistic regression models for original x-features, PCA and scree plot, and clusters. The best model was the original x-features with train-test gap of 0.006, AUC of 0.726, and balanced precision (0.756) and recall (0.753).
- Recommendation includes creating visually appealing photo and video content, boosting engagement with interactive content and storytelling, and using analytical tools to monitor engagement and track performance.

Apr 2024

Predicting Low Birthweight Using Python (Classification, Feature Selection)

- Applied statistical techniques, data cleansing and pre-processing, feature engineering, data models development, training, and tuning. Built and interpreted the effectiveness of classification models for predicting low birthweight, handling imbalance with weighted classes. The gradient boost machine performed best after hyperparameter tuning.
- Encourage early and frequent prenatal visits, especially for older mothers, to prevent low birth weight and improve maternal and infant health outcomes through targeted interventions and policy changes.