GEROME ANDREW DUCDUC

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Technical Skills

- **Programming Languages:** Python, JavaScript
- **Machine Learning Frameworks/Libraries:** Scikit-Learn, TensorFlow, Keras
- **Machine Learning Algorithms**: Linear Regression, Logistic Regression, Support Vector Machines, Decision Trees, Naive Bayes, KNN, K-means Clustering, Random Forest, Gradient Boosting, Neural Networks
- **Data Manipulation:** Pandas, NumPy
- **Data Visualization:** Matplotlib, Seaborn
- **Database Management:** SQL, SQLite, MySQL
- **Feature Engineering:** Principal Component Analysis, Clustering
- **Computer Vision:** Image Recognition, Object Detection, Action Recognition
- **Natural Language Processing:** Sentiment Analysis, Text Classification
- **Web Development:** React.js, Flutter, Django Web Framework, Streamlit, HTML, CSS
- **Tools:** Jupyter Notebook, VSCode
- **Version Control:** Git, GitHub, GitLab

Education

- **Polytechnic University of the Philippines**
  Bachelor of Science in Computer Engineering
  2019 - 2023

About Me

A recent computer engineering graduate possessing a teachable mindset and a strong thirst for knowledge. Has a strong passion and proven foundation in data science, machine learning, and AI. Enthusiastic about unearthing insights from data and eager to leverage my skills and abilities in the field of data.

Work Experience

Achieve Without Borders Inc. | Full Stack Developer Intern
2022

Key responsibilities:

- Enhanced e-commerce web application functionality by creating innovative features using the Flutter Framework.
- Demonstrated problem-solving skills by actively identifying and resolving bugs within the application.
- Conducted rigorous sanity testing using Cypress.io to maintain high-quality standards in the application.
- Collaborated within a dynamic team that successfully implemented the agile Scrum framework, actively engaging in daily sprint meetings and sprint planning sessions to drive project efficiency and success.

Grace General Hospital | IT Support Intern
2019

Key responsibilities:

- Diligently monitored and maintained computer systems for optimal performance and reliability.
- Provided timely and comprehensive technical support services across the company, swiftly resolving a variety of technical issues.
- Ensured seamless operation of IT infrastructure, contributing to enhanced productivity and minimized downtime.

Certificates

- **IBM Data Science Professional Certificate**- IBM Skills Network (coursera.org)*
- **TensorFlow Developer Professional Certificate** - DeepLearning.AI (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/professional-cert/5UCM4ZCX37C3
- **Machine Learning with Python** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/H8TK5FG6CTAP
- **Supervised Machine Learning: Regression and Classification** - Stanford Online (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/HLFTC95VZ69U
- **Convolutional Neural Networks in TensorFlow -** DeepLearning.AI (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/FS7SDQQUWNBC
- **Natural Language Processing in TensorFlow** - DeepLearning.AI (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/LQFK66B6ZZTX

- **Sequences, Time Series, and Prediction** -DeepLearning.AI (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/7YGJYBYTBPUS
- **Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning** - DeepLearning.AI (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/EK485JPHJBKW
- **Data Analysis with Python** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/4Y8ZJBTJLNQ2
- **Data Visualization with Python** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/LCCBE2QLSQFH
- **Tweet Emotion Recognition with TensorFlow** (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/JB6JJAVWKLNX
- **Databases and SQL for Data Science** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/HMLWXJETFZZ9
- **Python for Data Science and AI** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/ZP2E3YJN4CCD
- **Creating Multitask Models with Keras** (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/XPXDHD7PX3LC
- **Applied Data Science Capstone** -IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/DVWJ8TSVMH7A
- **Python Project for Data Science** -IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/ZNZ72DWD5KVG
- **Scikit-Learn to Solve Regression Machine Learning Problems** (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/CLHJCJR35QVV
- **Build a Machine Learning Web App with Streamlit and Python** (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/V4MX4ZC6ADNB
- **Intro to Machine Learning** (kaggle.com, 2023)
  - https://www.kaggle.com/learn/certification/geromeandrewducduc/intro-to-machine-learning
- **Feature Engineering** (kaggle.com, 2023)
  - https://www.kaggle.com/learn/certification/geromeandrewducduc/intermediate-machine-learning
- **Intermediate Machine Learning** (kaggle.com, 2023)
  - https://www.kaggle.com/learn/certification/geromeandrewducduc/intermediate-machine-learning
- **Pandas** - (kaggle.com, 2023)
  - https://www.kaggle.com/learn/certification/geromeandrewducduc/pandas
- **Python** (kaggle.com, 2023)
  - https://www.kaggle.com/learn/certification/geromeandrewducduc/python
- **Getting Started with Kaggle** (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/PATPSR64B7D3
- **Tools for Data Science** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/AEG2Q3AT6599
- **Data Science Methodology** - IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/QVMVZFZG46AT
- **What is Data Science** -IBM Skills Network (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/B5PH8DXZEXX2
- **Introduction to Backend Development -** Meta (coursera.org, 2023)
  - https://www.coursera.org/account/accomplishments/records/PPWYXXMPAMLQ
- **National Certificate II in Computer Systems Servicing** (TESDA, 2019)

** Certificate requirements completed but not yet received*

International Research Presentations

- **Real-time Littering Surveillance System using Integrated YOLOv7 and LSTM for Spatiotemporal Action Recognition and Object Detection**
  - 27th International Computer Science and Engineering Conference (ICSEC 2023) - Koh Samui, Surat Thani, Thailand

Projects

- **Real-time Littering Surveillance System using Integrated YOLOv7 and LSTM for Spatiotemporal Action Recognition**
  - Curated and preprocessed a dataset of 995 littering action instances for model training.
  - Engineered a spatiotemporal action recognition model by integrating YOLOv7 and LSTM architectures.
  - Designed and implemented a real-time littering detection system, ensuring accurate identification of littering actions.
    - https://github.com/geromeandrew/littering-action-detection-model
- **HAILS - Handsign Artificial Intelligence Learning System**
  - Employed transfer learning with InceptionV3 to train a deep learning model for American Sign Language (ASL) classification.
  - Developed a user-friendly web application using React.js and Django Web Framework for practical sign language learning.
    - https://github.com/geromeandrew/HAILS
- **Stellar Entity Classification using Random Forest Algorithm**
  - Conducted exploratory data analysis on the SDSS17 Stellar Classification Dataset.
  - Built a Random Forest model for precise classification of stellar entities into galaxies, stars, or quasars.
    - https://github.com/geromeandrew/stellar-entity-classification
- **Sentiment Analysis using Bidirectional Encoder Representations from Transformers (BERT)**
  - Leveraged pre-trained BERT model to distinguish between real and fake disaster tweets.
    - https://www.kaggle.com/code/geromeandrewducduc/text-classification-using-transformers
- **Disaster Tweets Classification with Sequence Models**
  - Designed a Long Short-Term Memory (LSTM) architecture for disaster tweet classification.
    - https://www.kaggle.com/code/geromeandrewducduc/classifying-disaster-tweets-lstm
- **Leveraging Random Forest Regression Algorithm for Carbon Dioxide Prediction**
  - Performed insightful exploratory data analysis on CO2 Emissions dataset.
  - Developed a Random Forest regression model for precise carbon dioxide emissions prediction.
    - https://www.kaggle.com/code/geromeandrewducduc/predicting-carbon-dioxide-emission
- **Predicting Heart Health with Ensemble Models**
  - Conducted comprehensive data analysis and constructed a binary classification model for heart disease prediction using ensemble methods.
  - https://www.kaggle.com/code/geromeandrewducduc/predicting-heart-health-heart-disease-classifier
- **House Prices Prediction using Advanced Regression Techniques**
  - Identified optimal predictor variables via EDA and trained a powerful gradient boosted regressor for precise house price prediction.
    - https://github.com/geromeandrew/random-forest-house-prices-prediction
- **University Admission Prediction using Extreme Gradient Boosted Trees Algorithm**
  - Conducted data exploration and developed an admission prediction model using XGBoost.
    - https://github.com/geromeandrew/university-admission-predictor
- **Mushroom Classifier Web Application**
  - Created a model for edible mushroom classification, supported by a user-friendly web application built with Streamlit.
    - https://github.com/geromeandrew/mushroom-classifier
- **Multi-Task Learning using Keras for Colored Handwritten Digit Classification**
  - Designed a multi-task model using the Keras functional API that predicts both the digit and its color from images.
    - https://github.com/geromeandrew/colored-handwritten-digit-classification