

Neil John D. Ortega

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TOOLS AND TECHNOLOGIES

- **Machine Learning and Deep Learning:** Keras, Tensorflow, scikit-learn, nltk, pandas, numpy, etc.
- **Big Data:** Spark (including MLlib and Streaming), NiFi, Kafka, Storm, Hive, Hadoop, Cloudera distribution, etc.
- **Web Development and Visualization:** Django, django-rest-framework, Flask, Shiny, AngularJS, D3.js, etc.
- **DevOps:** Docker, Kubernetes, Jenkins, Ansible, AWS.
- **Scripting:** Python, R, SQL, Bash.
- **Collaboration and Project Management:** Git, JIRA, Confluence.

EXPERIENCE

• Data Scientist

Nov 2016 — Present

Teradata Corporation

◦ Survey Response Classification

AI-based app for automated tagging of free-form customer survey responses with the goal of speeding up market defect discovery. Involved in developing the solution architecture. Wrote backend and frontend code for data ingestion and model results visualization using R, Python, and SQL. Trained and tuned LSTM + word-embedding models for the classification task using Keras with Tensorflow and scikit-learn. Created Docker-based pipeline for the team for efficient deployment to both local and production environments. Acted as domain expert for technologies the rest of the team are not familiar with.

◦ Customer Behavior Modeling

Hidden Markov model for predicting behavior of telecom subscribers for location-based and time-based targeting. Created parallelized Python pipeline to operationalize the model developed by data scientists. Coordinated with client's Cloudera Cluster administrators in tracking and debugging issues with their infrastructure. Benchmarked and optimized performance for both Hive data store and Teradata Aster compute engine that reduced end-to-end (E2E) processing time from several days to 2-3 hours.

◦ Model Monitoring and Maintenance

Created a Spark / Shiny application that allows users to run a scoring model against datasets in HDFS. Worked with the client's analytics team to properly scope the project and to determine parts of their workflow to be improved. Implemented dashboards for visualizing metrics indicating the health of the models. Deployed entire solution via Ansible and Cloudera Manager on the customer's AWS cluster. Solution streamlined the customer's processes and reduced E2E processing time from 1 week to 1 hour.

◦ Load Demand Forecasting and Disaggregation

Created an interactive Shiny application with a custom map UI via Leaflet that allows users to visualize both actual and forecasted electrical load demand and disaggregation. Presented a demo of the solution on-site.

◦ Real-Time Social Media Discovery

Real-time sentiment analysis application made using Apache NiFi, Kafka, Spark Streaming and SparkML (Machine Learning). Implemented both backend, using NodeJS and MongoDB, and frontend using Covalent/Angular and in-house chart widgets.

◦ Internal Consultant Directory

Custom internal directory for consultants connected to a recommender system meant for improving resource allocation and management. Wrote the REST API backend in Django and django-rest-framework.

◦ On-Site Search Improvements

Integrated pandas and numpy into Flask backend to improve its performance. Updated visualizations written with C3.js and D3.js.

◦ Plugin Development

Helped develop an internal reusable R plugin for creating customizable plots and widgets for Shiny applications.

◦ On-boarding Materials

Created customized demo and exercise materials for Apache NiFi, Kafka, and Storm, integrating the three into a single streaming dataflow application in a Cloudera environment. Handled training of members from another department.

• Senior Full-Stack Engineer

Sep 2011 — Nov 2016

icannhas Inc.

- **Stock Market Buy-or-Sell Recommender**

Machine learning-based approach for predicting stock market trend and recommending buy or sell orders. Implemented near real-time prediction backend using scikit-learn and Django. Implemented frontend using plot.ly and ReactJS.

- **Consulting and (Internal) Product R&D**

Worked on multiple web-based applications for both local and international clients. Implemented backend solutions mainly in Python, Django, django-celery, django-rest-framework, etc. Implemented frontend solutions using HTML5, CSS3, JS, and miscellaneous JS frameworks.

EDUCATION

- **Bachelor of Science in Civil Engineering, Magna Cum Laude**

2006 – 2011

University of the Philippines, Diliman, Quezon City