RAUL A. MORALES DELGADO

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Summary

Data Scientist and Mechanical Engineer. Data Scientist at Emote AI, developing backend infrastructure for a Minimum Viable Product (MVP). Over 3½ years of work experience in data analysis. Master of Engineering (MEng) with an emphasis in Sustainable Energy. Diploma in Data Science — completed a project in image classification using Deep Learning. Currently focused in the intersection of applied Deep Learning and cloud computing to find sustainable and comprehensive solutions to big data problems. Developed `espressomaker` (rc) PyPI package.

Work Experience

- jan**2020**–present: Data Scientist, **Emote AI**

Implementing backend servers for the MVP: co-designed backend architecture and created applications to enable I/O to RDS Postgres DB and S3 storage from EC2 instances, including piping a Deep Learning model for data processing and storage.

- oct**2012**–jul**2016**: Maintenance Supervisor, **Repsol**

Technical and economic data analysis of maintenance activities to gas stations (cost reduction, workload distribution and operational efficiency) for business strategy optimization. • Periodic reporting to internal (directors and upper management) and external (end customers) stakeholders • Project Management: successfully renovated 30% of fuel dispensers from October 2015 to May 2016 (USD$ 1.1M).

Projects

- nov**2019**: `espressomaker` **PyPI Package (v0.1rc1)**

Python 3 module that provides a context manager (+ functions) to modify the power management settings on a MacOS so that lengthy processes can run uninterruptedly.

- aug**2019**–present: Projects, **Nanodegree in NLP, Udacity**

Part of Speech Tagger Using Hidden Markov Models; developed with Python + Pomegranate. • Topic Modeling Using Latent Dirichlet Allocation (LDA); developed with Python + Gensim, NLTK, Pandas.

- jun**2019**–present: **Tutorials (ongoing)**

01 Quick and Sustainable Git and GitHub • 02 Setting Up a Jupyter Notebook on a Virtual Machine • 03 Derivation of a Forward and a Backpropagation Pass on a Feedforward Neural Network • 04 Anaconda, zsh and MacOS Catalina.

- mar**2019**: Data Science Capstone Project, **BrainStation**

"Classifying Landscape Images with Overlapping Features Using Convolutional Neural Networks." ~91% accuracy; developed in Python + TensorFlow, Keras, Scikit-learn, Numpy, Pandas, Matplotlib, Seaborn on AWS EC2 (Ubuntu w/Deep Learning AMI) & S3.

- may**2017**–oct**2018**: MEng Research Project, **University of Toronto**

Optimized an EPA burning procedure for experimental testing, implemented a particle sizer system (SMPS) to study particulate matter behaviour. Developed in Python.

Postsecondary Studies

- jan**2019**–mar**2019**: Diploma in Data Science, **BrainStation**
- sep**2016**–oct**2018**: MEng in Mechanical Engineering w/ Emphasis in Sustainable Energy, **University of Toronto**
- mar**2006**–jul**2012**: Mechanical Engineering, **Pontifical Catholic University of Peru**

  TA for Thermodynamics II, aug2012–jul2016.

Languages

Spanish: Native. • **English**: Fluent (TOEFL: 108/120 as of Feb 12, 2016). • **French**: Basic.

Skills

- **Technical:** Statistics (parametric and non-parametric), Feature Engineering, Supervised (Regression and Classification) and Unsupervised (Clustering) ML for Predictive Modeling, DL (CNN, RNN), Rec. Systems (ALS-WR), Data Mining and Wrangling, Data Analytics and Visualization.
- **Coding:** Fluent: Python, Postgres and MySQL, Numpy, Statsmodels, Pandas, Matplotlib, Seaborn, Scikit-learn, Git & GitHub. • Familiar with: Apache Spark (PySpark), Tableau, *nix environments, shell scripting (bash, SSH), NLP libraries. More on LinkedIn.
- **Cloud Platforms:** AWS (EC2, S3, RDS, IAM), GCP (CE, Storage, BigQuery).
- **OS & Office Suites:** MacOS, Linux, Windows, MS Office, Google Suite.
- **Engineering & Others**: LaTeX, MATLAB, Markdown.

Continuous Studies

- **In course**: Nanodegree in Data Engineering, Udacity.
- **In course**: Nanodegree in Natural Language Processing (NLP), Udacity.

Hobbies

- Typography.