

RAUL A. MORALES DELGADO

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Summary

Data Scientist at Emote AI. 3½+ years of work experience in data analysis and 1+ in data science. 2+ years working with Python and relational databases (RDBMS), and 1½+ years with AWS. Master of Engineering from University of Toronto. Diploma in Data Science. Mainly interested in the intersection of applied Deep Learning and cloud computing to find sustainable solutions to big data problems. Developed `espressomaker` (PyPI package).

Work Experience

- **jan2020–present: Data Scientist, Emote AI (Mental Health & AI)**
 - Co-designed the backend server architecture, implemented it on AWS and developed applications to enable I/O between resources (RDS Postgres, S3 and EC2).
 - Developed and deployed a production pipeline for data preprocessing, prediction from two Deep Learning models, data post-processing and storage, all on AWS.
 - Prepared cost estimates for AWS resources.
 - Improved post-processing performance by ~67%.
 - Implemented a backend server-wide logging system.
 - Leading the execution of a \$30k R&D agreement to develop joint production and research software.
 - Participated in technical deep dives with potential clients and investors.
- **oct2012–jul2016: Maintenance Supervisor, Repsol (Oil & Gas)**
 - 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 (Marketing director and managers of operations, sales and HSE) and external (clients) stakeholders.
 - Project Management: successfully renovated 30% of fuel dispensers from October 2015 to May 2016 (USD\$ 1.1M).

Projects

- **sep2020 (ongoing): Website — Professional blog**
Built with Hugo and deployed with Netlify — contains posts, tutorials and projects I've been working on since 2019.
- **nov2019: `espressomaker` PyPI Package (v0.1rc1)**
Python 3 module that provides context managers (+ functions) to modify power management settings on MacOS so that lengthy processes can run uninterruptedly.
- **mar2019: 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.
- **may2017–oct2018: Research Project, University of Toronto**
Developed in Python. Implemented a non-linear regression model to predict dilution ratios of wood combustion particulate matter from a particle sizer system (SMPS).

Postsecondary Studies

- **jan2019–mar2019: Diploma in Data Science, BrainStation**
- **sep2016–oct2018: Master of Engineering in Mechanical Eng. w/ Emphasis in Sustainable Energy, University of Toronto**
- **mar2006–jul2012: Mechanical Engineering, Pontifical Catholic University of Peru**

Skills

- **Technical:** Statistics (parametric and non-parametric), Exploratory Data Analysis, Feature Engineering, Supervised and Unsupervised ML for Predictive Modeling, Deep Learning (feed-forward, convolutional and recurrent neural networks), Rec. Systems (ALS-WR), Data Analytics and Visualization.
- **Languages:** Python, MySQL, Postgres.
- **Data Analysis:** NumPy, Statsmodels, SciPy, Pandas.
- **Data Visualization:** Matplotlib, Seaborn, Bokeh, Tableau.
- **ML & DL:** Scikit-learn, Keras & TensorFlow, Pytorch, OpenCV.
- **Data Eng. & DevOps:** *nix environments, shell scripting, SSH, Git & GitHub, Apache Spark (PySpark).
- **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, HTML, CSS.

Languages

Spanish: Native. • **English:** Fluent • **French:** Basic.

Continuous Studies

- Nanodegree in Data Engineering, Udacity.
- Nanodegree in Natural Language Processing (NLP), Udacity.

Hobbies

- Typography.