

Rosa Paula Cuevas

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Career Summary

Data scientist with experience in food science. Thrives in multidisciplinary teams that devise data-driven solutions for real-world problems. Generates insights from large datasets using Excel, R, and Python. Communicates impactful stories to stakeholders.

Technical Skills:

Languages: R, Python

Data Visualisation and Manipulation: pandas, matplotlib, ggplot2, circlize, gridExtra, corrplot

Statistical Analysis: scipy, numpy, agricolae

Machine Learning: caret, lmtest, car, tm

Others: command line, version control (GitHub), jupyter notebooks, scientific writing

Projects

WeatherPy

- Analysed weather metrics relative to distance from the Equator and from the Prime Meridian
- Created a dataset containing at least 500 cities using OpenWeatherMap and Google Maps Geocoding APIs
- Summary statistics and graphs were generated using Python, Pandas, and Matplotlib

Academy of Py

- Compared school performance metrics (standardised tests) between charter and district schools
- Summary statistics and graphs were generated using Python, Pandas, Matplotlib, SciPy, and NumPy

Rice classification by quality

- Used machine learning to classify rice within the same amylose class into different quality types
- Summary statistics and graphs were generated using R, caret, ggplot2, randomForest, nnet
- Designed experiments, generated data, and led the write-up of the peer-reviewed publication

Drivers of food choice of high-income urban Filipinos

- Used text analytics to extract information and find food choice patterns from outputs of an expert elicitation workshop and from data obtained in a consumer survey
- Summary statistics and graphs were generated using R, tm, corrplot
- Designed and implemented the consumer survey, conducted text data mining, and led the write-up of the peer-reviewed publication

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Experience

International Rice Research Institute – Los Banos, Laguna, Philippines

Scientist (2015–2018)

- Generated insights from rice quality and consumer data using data analytics including but not limited to hypothesis testing (parametric and non-parametric), regression analyses, correlation analyses, clustering
- Headed and managed the Sensory Evaluation Laboratory
- Developed the “gastronomic systems research” framework with a team of social scientists and used it to develop insights on food choice behaviours in India and in the Philippines
- Provided technical expertise for resolving consumer food safety issues of the Philippine government

Consultant (2014–2015)

- Monitored sensory panelist performance through data analytics (e.g., chi-square, t-test)
- Generated descriptive sensory profiles for a diverse collection of rice varieties
- Liaised with restaurant industry stakeholders in promoting Philippine heirloom rice varieties

Post-doctoral Fellow (2010–2014)

- Developed statistical methods for evaluating the performance of the sensory evaluation team
- Collaborated with a team of plant breeders and molecular biologists in selecting rice breeding lines in a varietal improvement program (East Africa) based on organoleptic quality metrics

Professional Service Staff (2008–2010)

- Created databases (MS Access) and work packages for the Grain Quality and Nutrition Centre’s full-cost recovery program for client services
- Investigated associations between starch chemistry and various alleles linked with indicators of organoleptic and cooking quality in a large collections of rice samples

Education

University of California, Berkeley Extension – San Francisco, CA, USA

Certificate, Data Analytics and Visualisation Boot Camp (2019)

University of Queensland – Brisbane, QLD, Australia

PhD Agricultural Science (2009)

Doctoral Thesis: Starch microstructure and functional properties in waxy rice (*Oryza sativa* L.)

University of the Philippines Los Banos – Los Banos, Laguna, Philippines

BSc Biology (2002)

Magna cum Laude

Thesis: Production and utilisation of crude tylosin from high-yielding *Streptomyces fradiae* NRRL 2702 Mutant No. 93 as therapeutic agent in broilers