

# 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 with unique organoleptic properties

*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