

# Vanessa Rivera Quiñones, Ph.D.

## Data Scientist

### SUMMARY

- Applied Mathematician with 5+ years of experience in multidisciplinary computational projects using R, Python, and MATLAB.
- Effective communicator at providing insights to real-world problems using mathematical models.
- Highly adaptable professional who enjoys learning new skills, embraces teamwork, and is able to work independently.

### PROFESSIONAL EXPERIENCE

#### Freelance Data Scientist

- Developed a content-based book recommendation system based using a tf-idf model to determine the similarity of content.
- Built an automatic credit card approval predictor using a logistic regression model and performed cross-validation to find optimal hyper-parameters.
- Using fuzzy name matching to find the gender distribution of children's picture books authors over time.

#### Graduate Researcher

*University of Illinois at Urbana-Champaign*

- Implemented the Gillespie algorithm in MATLAB to simulate a stochastic model of recurrent epidemics.
- Gathered and analyzed video data using ImageJ to visualize the movement of the zooplankton *Daphnia* when exposed to light.
- Analyzed a predictive mathematical model for species competition, performed numerical simulations in MATLAB, and visualized results.

#### Project Manager

*Illinois Geometry Lab, University of Illinois at Urbana-Champaign*

- Worked closely with teams of students on multiple modeling projects using Python and MATLAB.
- Defined and adapted project timelines gave critical feedback on reports and provided content training.

#### Teaching Assistant

*University of Illinois at Urbana-Champaign*

**Courses:** Theory of Arithmetic, Pre-Calculus, Calculus for Business I, Calculus I and, Calculus II for Engineers, Ordinary Differential Equations.

- Led small groups discussion sessions and active learning activities.
- Developed course curriculum, facilitated lessons, crafted solutions, and provided feedback to instructors on course materials.

### EDUCATION

**Ph.D. in Mathematics** (2019), **M.S. in Applied Mathematics** (2016)

University of Illinois at Urbana-Champaign

**B.S. in Mathematics** (2013), **Minor:** Finance

University of Puerto Rico, Río Piedras

### REFERENCES

Available upon request.

### SKILLS

Python, Matlab (proficient)

R, SQL (intermediate)

Pandas, Scikit-Learn, Keras,

Apache Spark, TensorFlow

Data Analysis & Visualization

Mathematical Modeling & Statistics

Artificial Intelligence

Learning on the fly

Analytical Thinking

Creative problem-solving

Communication

Teamwork, Multi-tasking

### LANGUAGES

Spanish (Native)

English (Highly fluent)

French (Basic)

### AWARDS

Brahana TA Award

Ford Foundation Fellowship

StateFarm Doctoral Fellowship

### COURSES

Data Scientist with Python Track

NLP Fundamentals with Python

Machine Learning

Agile Software Development

### LEADERSHIP & SERVICE

**Co-editor,** [Blog on Math Blogs](#)

**Junior Associate,** [Lathisms.org](#)

**Academic Chair,** Association for Women in Mathematics.

**Vice-President,** STEM-Fem Alliance