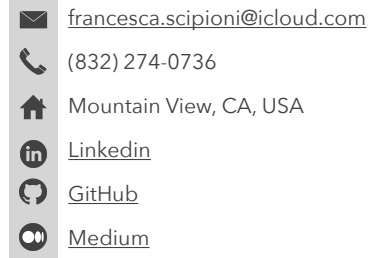


FRANCESCA SCIPIONI, Ph.D.

DATA SCIENTIST &
RESEARCH SCIENTIST



PROFILE

Forward-thinking research scientist and data scientist with a strong background in physics, statistics, and mathematics and a **10+ years of experience in building models** (linear regression, dimensionality reduction, clustering, classification) applied to the analysis of large datasets acquired by cutting-edge NASA's space missions.

Effective and confident science communicator, both oral and written, **making complex scientific concepts accessible** to audiences of various backgrounds, proved by contributing with **+40 presentations**, both in oral and poster forms, in **international conferences**.

Creative and self-motivated individual with easy-integration in a multicultural environment with unique combination of **detail-oriented mindset, driven personality and analytical skills**, resulting in **long-lasting research projects, +3 international collaborations and >20 peer-reviewed scientific publications**.

GENERAL SKILLS

Data Analysis ● Data Science ● Statistics ●
Mathematics ● Probability ● Modeling ●
Data Visualization ● Machine Learning ●
Deep Learning ● Dimensionality reduction ●
Clustering ● Classification ● A/B Testing ●
Data Preparation ● Data Wrangling ●
Recommendation engines ● Causal Inference

SOFT SKILLS

Fast Learning ● Creativity ● Decision making ●
Innovation ● Problem-solving ● Feedback ●
Organization ● Critical Thinking ● Collaboration ●
Written and verbal communication ● Teamwork ●
Presentation and facilitation ● Flexibility ●
Leadership and mentoring ● Time Management ●
Attention to details ● Adaptability

TECHNICAL SKILLS

Python ● OOP ● Numpy ● Pandas ●
Matplotlib ● Scipy ● Scikit-learn ●
Tensorflow ● SQL ● GIT ● Tableau

CERTIFICATES

October 2022
Credential ● **DATA SCIENTIST NANODEGREE**
Udacity Nanodegree Program

July 2022
Credential ● **INTRODUCTION TO MACHINE LEARNING WITH TENSORFLOW**
Udacity Nanodegree Program

April 2021
Credential ● **MATHEMATICS FOR MACHINE LEARNING**
Coursera - Imperial College of London

WORK EXPERIENCE

11/2021 - 10/2022
Mountain View, CA, USA

DATA SCIENTIST
Bayer

- Applied **ML models** to data of genetically modified crops to discern between different genetic traits:
 - PCA; K-means and GMM cluster; Deep neural network modeling.
- Developed and tested characteristic spectral indices to investigate the composition and physical state of crops:
 - **Improved the accuracy** of identifying crop resistance to adverse environmental factors by **20%**.

07/2018 - 01/2023
Mountain View, CA, USA

RESEARCH SCIENTIST
SETI Institute

- Calibrated, analyzed and modeled data from NASA space missions:
 - PCA transformation; K-means, SAM and GMM clusters.
 - **+20 publications** in peer-reviewed journals.
 - Co-investigator of **5 proposals awarded by NASA**.

08/2016 - 06/2018
Moffett Field, CA, USA

NASA POSTDOCTORAL FELLOW
NASA Ames Research Center

- Developed a code to create mosaic of images of all major satellites of Saturn, and of Pluto.
 - Mosaics **quality improved by 30%**.

05/2014 - 07/2016
Houston, TX, USA

LPI POSTDOCTORAL FELLOW
Lunar and Planetary institute

- Developed a code to orthorectify and average together large quantities of hyperspectral images from remote sensing:
 - Projection **accuracy improved by 10%**.

2012 - 2014
Rome, Italy

INAF POSTDOCTORAL FELLOW
National Institute of Astrophysics (INAF)

- Applied machine-learning clustering (k-means) and classification (SAM) methods to NASA Cassini hyperspectral data:
 - **4 publications** in peer-reviewed journals.

EDUCATION

2009 - 2012
Rome, Italy

PHD IN ASTRONOMY
University of Rome Tor Vergata

2005 - 2008
Rome, Italy

MASTER DEGREE IN SCIENCE OF UNIVERSE
University of Rome Tor Vergata

2002 - 2005
Rome, Italy

BACHELOR DEGREE IN PHYSICS AND ASTROPHYSICS
University of Rome La Sapienza