

Abhijith Rajan, PhD

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Data scientist with over a decade of experience in academic research, data analysis, model design and simulations. Skilled in Python programming, machine learning, unstructured data, statistics and problem solving. Experienced in communicating results to both technical and non-technical audiences.

Areas of Expertise include:

- Data Cleaning
- Python
- Grant Writing
- Data Analysis
- Natural Language Processing
- Problem Resolution
- Machine Learning
- Unstructured data
- Technical Communication

Professional Experience

Data Scientist

Mareana Inc | Princeton, NJ | Jan 2019 – present

- Leading a project aimed at building a complete planning tool for a global pharmaceutical company. The project involves serving a multi-output time-series prediction model with a REST API, to enable improved planning decisions.
- Built a natural language engine, with the goal of providing several functionalities such as, autocomplete suggestions, providing a conversion of natural language questions to SQL queries. The tool has been deployed across multiple clients to generate alerts, help users query databases, etc.
- Building a data pipeline aimed at extracting information from image data using Python-based computer vision tools. This includes tasks such as auto-extract tabular data, identifying and extracting image artwork, identifying and converting hand written data.

Research Fellow

Space Telescope Science Institute | Baltimore, MD | Jun 2017 – Jan 2019

- Created Python tools for use with coronagraphic instruments on ground and space-based instrumentation. Improved simulations of data from the James Webb Space Telescope to incorporate realistic noise and thermal models.
- Used least squares and PCA based techniques to transform and extract information from imaging data.
- Modeled exoplanet spectra via Markov-Chain Monte Carlo methods to estimate the composition of exoplanet atmospheres.
- Mentored multiple Johns Hopkins University graduate students. Co-founded the Chesapeake Bay Area Exoplanet Meeting series.

Research and Instrument Analyst 2

Space Telescope Science Institute | Baltimore, MD | Sep 2008 – Apr 2012

- Member of the Wide Field Camera 3 team on the Hubble Space Telescope. Led multiple programs to study the visible and near infrared camera performance, including long term monitoring of noise properties, and camera degradation due to cosmic radiation.
- Co-developed a method to image extra-solar planets for space telescopes. The method is now a standard observing mode for the next space telescope, the James Webb Space Telescope.
- Mentored undergraduate students participating in the Space Astronomy Summer Program.

Education

Doctor of Philosophy, Astrophysics

Arizona State University | Tempe, AZ | May 2012 – May 2017

Master of Science, Astronomy

San Diego State University | San Diego, CA | Aug 2005 – Aug 2008

Bachelor of Engineering, Instrumentation

University of Pune | Pune, India | Sep 1999 – Aug 2004