

Shibi Rajagopalan, *Ph.D. Physics, Machine Learning, Data Science*

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Machine-learning data scientist with background in physics with very strong skills in Python and Linux programming. Passionate about data, having very detail-oriented and multifaceted approach to understanding complex data and recognizing what is important for end goals. High level of knowledge in statistics, mathematics, and numerical analysis. Background in research gives capability of organizing and prioritizing projects from start until finish. Excellent verbal & written communication, especially of technical information, from research presentations, publications, mentorship, and teaching.

Data Experience

Data Science & Scientific Research Consultant

Self-Employed (Current)

Consumer Products Analytics

- Price-elasticity modeling to optimize weekly prices for mega grocery-store chains
- Analysis of massive database with trillions of records and hundreds of features
- Statistical modeling with multivariate regression, dim. reduction, and fourier analysis: Machine Learning, AWS, SQL, Spark

Climate Research

- Close work with client to write popular book on global warming — using knowledge of statistics and science to conduct extensive review of climate-science literature
- Frequent use of statistical modeling techniques, esp. time series and spatial-correlation
- Python analysis code for various climate databases (*repo link on my web page*)
- High-quality reporting on research progress and achievement of project goals (\LaTeX)

Quantitative History

- Use of NLP in quantitative-history research, seeking statistical patterns in war data
- Web scraping and automated text scanning to gather significant figures, historical events, and dates to supplement existing public databases; NLTK, Scrapy

Python Database Developer

Report Linker · Lyon, France

- Database and search-engine interface design using Python, SQL, Solr, Elastic Search
- Significantly improved search results of data sets relevance using Solr with clustering
- Data-set debulking, 80% reduction, additionally leading to better search relevance
- Data munging, ETL, and handling of unstructured and many structured data formats
- Continuous cross-functional team experience: content, marketing, sales, and IT

Theoretical Physicist

Acad. Institutions in US, France, & Italy

- Original research and publications in theoretical particle physics
- Employing numerous data analysis techniques for scientific research when needed, *e.g.*, Statistics · Monte-Carlo Simulations · Stochastic Processes · Numerical Analysis
- Great amount of experience and attentiveness in effectively conveying technical ideas; teaching record at all levels from elementary to college level, attaining stellar reviews; mentorship at graduate and postdoctoral level (*teaching resume on my web page*)

Past Employment

- Data Science and Scientific Research Consultant, Bulgaria & US 2015 - 2017
- Python Database Developer, Report Linker Content Team, Lyon, France 2014
- International Research Fellow Theoretical Physics, INFN, Torino, Italy 2011 - 2013
- Visiting Postdoctoral Researcher, LPSC, Grenoble, France 2011 - 2013
- Physics & Mathematics Graduate Assistant, Florida State & OU 2003 - 2010
- Polymer Calorimetry Lab Intern, BerkTek, New Holland, PA 2003
- Undergraduate Lab Experiment Assistant, Sand Physics, Penn State 2000-2001

Education

2010	Ph.D. Physics University of Oklahoma
2008	M.S. Physics Florida State University
2005	M.S. Applied Mathematics Florida State University
2002	B.S. Physics Penn State University

Proficiencies

Machine Learning · Natural Language Processing · Statistics · Statistical Modeling · Time Series Analysis · Algorithms · Data Structures · Data Analysis · Data Exploration · Experiment Design · Problem Solving · Organization · Team Work

Practical Skills

Python (Scikit-Learn, TensorFlow, Pandas, NumPy, SciPy) · Bash Shell Scripting · Linux · Excel · R · C++ · SQL · AWS · Solr · Git

Links

-  LinkedIn: www.linkedin.com/in/ShibiRajagopalan
-  Webpage: <https://shibi-raj.github.io/portfolio>
-  Publications: https://www.researchgate.net/profile/Shibi_Rajagopalan
-  Upwork Freelancing: <https://www.upwork.com/o/profiles/users/~01c4635d06b408f632/>

Languages

English · French · Bulgarian