Gustavo Varela Alvarenga

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Summary

Since 2021, I have served as the regional head of data science for Latin America at Argus Media, overseeing three departments with a total of 12 professionals. My responsibilities include developing R-based data products and overseeing the development of Shiny-based apps that assist clients in navigating the complex and often opaque commodity markets. With over two decades of combined academic and professional experience, I possess the skills necessary to craft statistical and machine learning models that not only spot patterns but also forecast future trends and provide actionable insights. My technical proficiency spans several programming languages, including R, Python, and SQL, which I leverage for data manipulation and the construction of predictive models. Additionally, I use GitHub for robust version control and seamless collaboration. My expertise in data visualization tools enhances my ability to collaborate effectively with non-technical teams, ensuring the delivery of robust solutions tailored to the company's strategic goals. I am committed to staying abreast of the latest advancements in data science and artificial intelligence. This ongoing education helps me ensure that our solutions remain cutting-edge and that our interdisciplinary teams share a common understanding of these technologies, facilitating the effective application of our data-driven strategies.

Experience

Regional Head of Data Science for Latin America

Argus Media

Dec 2021 - Present (3 years)

- Established and currently manage the Latin American Data Science team, assembling a group of 12 professionals, including data engineers and scientists across three departments. Two of these departments are led by one department head and one team lead reporting directly to me.
- Supervised the development of scalable R/Shiny apps and their deployment in an AWS environment.
- Enhanced project delivery efficiency by promoting a culture of innovation and collaboration, resulting in a notable team retention rate of 86% over nearly three years.
- Spearheaded the creation and deployment of R-based data products (including Shiny-based apps), enhancing client decision-making processes and operational efficiency by utilizing automation tools.
- Cultivated strategic partnerships with shareholders, driving the development of new analytical dashboards and products in R/Shiny, which led to an uplift in stakeholder engagement and product adoption.
- Collaborated with Business Developers and with the Sales team to design and present data science solutions to clients, enhancing the relevance and impact of presentations, which in turn spiked client interest and engagement.
- Provide expert guidance in statistical methods and time series analysis, significantly improving project outcomes and team skill levels.
- In charge of the daily production of the two principal data science products, ensuring the integrity of automated models and the accuracy of results prior to publication.

- Responsible for reviewing and approving changes to the code-base of the top revenue-generating data science product, instituting robust quality assurance protocols and enforcing strict version control with Git to enhance product reliability and performance.

Lecturer

University of Maryland

Jan 2020 - May 2021 (1 year 5 months)

- Responsible for the development and delivery of a 400-level course in Computational Statistics, focusing on data wrangling, exploratory data analysis, and inferential statistics (including model building) using SAS© and SQL, directly contributing to the advancement of applied statistics and data science education.
- Designed and implemented cutting-edge evaluation strategies for a Computational Statistics course, incorporating data-backed research projects that required students to choose a topic, formulate their own research questions, and apply advanced statistical methods such as linear regression, logistic regression, or ANOVA.
- Emphasized the critical evaluation of methodological assumptions and coding accuracy, significantly enhancing students' practical skills in data analysis and model interpretation, and preparing them for future careers as data scientists.

National Science Foundation Mathematical Sciences Graduate Intern

Pacific Northwest National Laboratory - PNNL

Jun 2019 - Aug 2019 (3 months)

- Completed Coursera's Deep Learning Specialization, covering from basics to CNNs & RNNs, demonstrating a solid foundation in AI/ML technologies critical for developing advanced data-driven solutions.
- Led the development and proposal of a RDBMS (PostgreSQL & MySQL) for a DOE, NETL, and PNNL project, showcasing leadership in managing tech projects and contributing to an increase in data processing efficiency by optimizing database architecture.
- Engineered a Python web crawler to extract relevant data for a PostgreSQL database, and spearheaded the development of a web application for experimental data input, achieving an improvement in data collection accuracy and efficiency.
- Led a workshop on R programming, focusing on 'blogdown' and 'shiny' packages, to an all-women audience, promoting diversity in tech and enhancing participants' data analysis skills.

Lead Statistician

Agência Brasileira de Desenvolvimento Industrial - ABDI

Aug 2013 - Jul 2014 (1 year)

- Collaborated with a multidisciplinary team to analyze the impact of public policies (using simulation and quasi-experiment methods -difference in differences, propensity score matching -, and data visualization techniques) on Brazilian industrial development, delivering actionable insights and recommendations. This work was directly showcased through presentations to the Brazilian Minister of Industry.
- Led the collection and analysis of diverse socioeconomic data, driving data-driven decision-making and policy formulation. This role highlighted my project management and leadership skills, aligning with the competencies required for a Tech Lead Manager position.

- Managed data summarization and reporting processes, culminating in strategic recommendations that informed policy improvement initiatives, demonstrating a significant contribution to data-driven policy development.
- Worked with a team in the developed a web enabled tool called The Competitiveness Decoder® that is focused on country data and has the goal of allowing users to learn and master the complexity related to competitiveness through different lenses. Find out more about it here. You can find me under “Former Team Members” on the website.

Lecturer

Universidade de Brasília

Aug 2012 - Jul 2014 (2 years)

- Transformed the understanding of statistical models among undergraduate students from non-STEM backgrounds, achieving a marked improvement in their ability to apply data insights to diverse fields, as evidenced by enhanced course evaluations and increased student engagement.
- Pioneered innovative teaching methodologies to demystify complex statistical and machine learning concepts, fostering an interdisciplinary approach to data science education and preparing students for data-driven decision-making roles.
- Cultivated a collaborative educational environment that bridged the gap between technical and non-technical disciplines, significantly enhancing the interdisciplinary communication skills of students, as measured by their performance in team-based projects.

Statistical Consultant

IPEA - Institute for Applied Economic Research

Jan 2009 - Aug 2013 (4 years 8 months)

- Designed and executed research studies using advanced statistical and econometric methods to evaluate the efficacy of various Brazilian industrial policies, leading to strategic policy recommendations.
- Provided expert advisory services to senior researchers on statistical methodologies throughout the research process, enhancing the analytical framework and outcomes.
- Developed sophisticated data extraction and management techniques, including web scraping for patent data and phonetic matching algorithms for dataset integration.
- Managed comprehensive data processes involving the collection, processing, and cleaning of extensive datasets from multiple sources, ensuring accuracy and reliability in data analysis.

Education

University of Maryland

Doctor of Philosophy (Ph.D.), Statistics

Aug 2014 - Aug 2021

Universidade de Brasília

Master of Arts - MA, Economics

2009 - 2011

Universidade de Brasília

BS, Statistics

2004 - 2008

Licenses & Certifications

Game Theory

Project Management with Monday.com

Neural Networks and Deep Learning

Model Thinking

Skills

Predictive Modeling • Team Leadership • Leadership • English • Portuguese • R (Programming Language) • R Shiny

Honors & Awards

National Economy Award – 2nd Place (Prêmio CNI de Economia)