



10 Courses

**The Data Scientist's Toolbox**  
**R Programming**  
**Getting and Cleaning Data**  
**Exploratory Data Analysis**  
**Reproducible Research**  
**Statistical Inference**  
**Regression Models**  
**Practical Machine Learning**  
**Developing Data Products**  
**Data Science Capstone**



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**LUIS ALBERTO ALANIZ CASTILLO**

has successfully completed the online, non-credit Specialization

## Data Science

The Data Science Specialization covers the concepts and tools for an entire data science pipeline. Successful participants learn how to use the tools of the trade, think analytically about complex problems, manage large data sets, deploy statistical principles, create visualizations, build and evaluate machine learning algorithms, publish reproducible analyses, and develop data products. This certificate does not confer academic credit toward a degree or official status at the Johns Hopkins University.

Jeff Leek, PhD; Roger  
Peng, PhD; Brian Caffo,  
PhD

Department of  
Biostatistics  
Johns Hopkins  
Bloomberg School of  
Public Health

The online specialization named in this certificate may draw on material from courses taught on-campus, but the included courses are not equivalent to on-campus courses. Participation in this online specialization does not constitute enrollment at this university. This certificate does not confer a University grade, course credit or degree, and it does not verify the identity of the learner.

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