

November 17-22, 2020

Overview

This course comprises of three modules, basics of probability, introduction to google colab and the \LaTeX processor on Overleaf. The objective is to provide a theoretical solution to a probability problem, computationally verify using python and present it through a \LaTeX document.

Pre-requisites

This course is designed for teachers. Anyone with a working knowledge of high school probability can benefit from this course. Teachers will learn how to use python for generating and using random variables and write math documents using latex.

Modules

Python through
Google Colab

1. Executing a sample python code in colab.
2. Generating figures and using python libraries for computations.
3. Using google drive as a file manager for colab

Overleaf for Latex

1. Generating a sample pdf from a latex file using overleaf.
2. Writing equations in latex.

Probability

1. Uniform Distribution
2. Bernoulli distribution and Bayes rule
3. Binomial Distribution
4. Gaussian distribution and central limit theorem
5. Distributions derived from the Gaussian
6. Generation of random variables

Schedule

- November 17 **9:00-21:00**, *Introduction to Goolge Colab, Overleaf for Latex .*
- November 18 **9:00-21:00**, *Uniform Distribution, Bernoulli distribution and Bayes rule .*
- November 19 **9:00-21:00**, *Binomial and Gaussian Distribution .*
- November 20 **9:00-21:00**, *Distributions derived from the Gaussian .*
- November 21 **9:00-21:00**, *Generation of random variables .*
- November 22 **9:00-21:00**, *Miscellaneous .*

Workshop Summary

28 participants registered for the course, out of whom 7 have actively engaged with the instructor and submitted assignments. 3 of these seven had earlier attended the course titled "Matrix Analysis through Python" and have shown remarkable improvement.

Course Coordinator

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Dr. G. V. V. Sharma is an Associate Professor in the Department of Electrical Engineering at IIT Hyderabad. He received his PhD in Electrical Engineering from Indian Institute of Technology, Bombay, M. Sc. (Engg.) from Indian Institute of Science, Bangalore, and B. Tech. from Indian Institute of Technology, Guwahati. Before joining IIT Hyderabad as a faculty, he was employed in the software industry. He works on wireless technologies, but has a passion for developmental engineering; taking technology to the masses. .