

Problem Set 1

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Abstract

A brief introduction to me and my ability to plot a gaussian function in Python.

1 Introduction

Hey I'm Clark. I did my undergrad in Physics at the University of Southern California. I'm interested in industry at the moment, but don't really know what I wanna do after grad school hahaha. I'm a self-taught programmer (I learned Python via Code Academy), so all of my work has been learned on the job at a superconducting quantum computing research group called Levenson-Falks Labs. I wrote device drivers, ran simulations, and algorithmically designed chips. I think I have the skills to move out of the class, but I'll let you be the judge of that; here's a little portfolio:

- Open-Source Contributions to Qiskit Metal. It's used to designing and simulating superconducting quantum devices.
- Software Architect for SQuADDS. This is a culmination of my undergraduate research, which acts as a chip look-up extension to Qiskit Metal. I no longer have time to work on the project due to starting grad school so it's being implemented by other researchers in the lab, but the simulation methodology and architecture are mine.
- Engineer for iMessage Chatbot. I had COVID and got bored so I made a chatbot that pretends to be me by analyzing my iMessage history.

2 Methods

Used matplotlib and numpy to plot a Gaussian.

2.1 Formulation of the problem

Plot a Gaussian, which is given by the formula:

$$y(x) \equiv \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{1}{2} \frac{(x-\mu)^2}{\sigma^2}\right) \quad (1)$$

2.2 Computational methods

3 Results

Using the code outlined in `plot_gaussian.py`, we were able to generate a plot of a Gaussian.

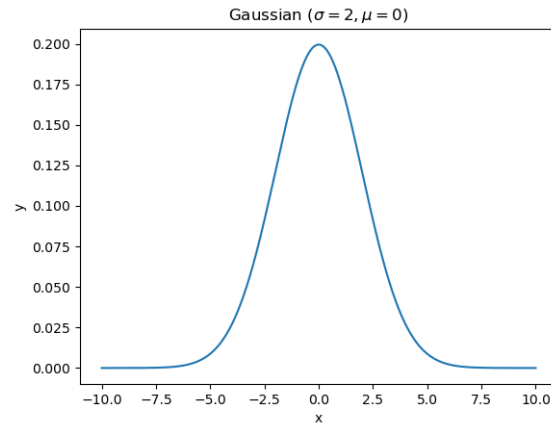


Figure 1: Plot of Eq. 1

4 Discussion

Not relevant to this problem set.