

# Computational Physics PS-1

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I have some experience doing computational physics from undergrad. I took a physics simulations class, but it was done entirely using Mathematica which isn't exactly the fastest or most useful language. I have also used some simulations in my past research, but most of that has been setting parameters in premade software. I already have a decent programming background in python and C++; a few computer science classes in college plus many years of doing robotics in various clubs. My main goal for this class is to learn how to write efficient physics simulations. I feel like I know how to write efficient code, and to a lesser extent how to write basic simulations, but I have never combined the two. I am unsure what I want to do once I finish my Ph.D, but I figure I've still a few years to figure that out.

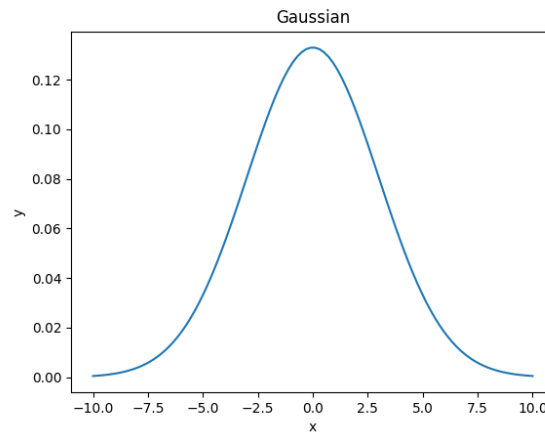


Figure 1: Gaussian with  $\sigma = 3$  and  $\mu = 0$  plotted with python using numpy and matplotlib from  $-10$  to  $10$ .