

# Rohith Krishna

8 Lakshmi Apartments, 17 Mosque Street, Mylapore, Chennai 600004  
+91 86672 13024 ◊ rohithslog@gmail.com ◊ pgdm19rohith@mse.ac.in

## EDUCATION

Course	Place of Study	Duration	Score
PGDM in Research and Business Analytics	Madras School of Economics	June 2019 - pursuing	9.00/10.00
MSc in Physics	DG Vaishnav College, Madras University	June 2017 - May 2019	9.10/10.00
BSc in Physics	Vivekananda College, Madras University	June 2014 - May 2017	8.80/10.00
Class 12 - AISSCE	The Hindu Colony Chellammal Vidyalaya	March 2013	90.8%
Class 10 - AISSE	The Hindu Colony Chellammal Vidyalaya	March 2011	10.0/10.0

## TECHNICAL SKILLS

<b>Programming Languages</b>	C, R, Python, Matlab, Mathematica
<b>Computational Softwares</b>	Quantum ESPRESSO, TBLMTO, Gaussian, XCrysDen.
<b>Typesetting &amp; Documentation</b>	L <sup>A</sup> T <sub>E</sub> X, Markdown, HTML5, Microsoft Office.
<b>Relevant Course-work</b>	Linear Algebra, Probability & Statistics, Discrete Mathematics Machine Learning, Operations Research, Differential Equations, Quantum Mechanics, Statistical Physics, Relativity, Marketing, Finance, Microeconomics, Macroeconomics, Econometrics.

## PROJECTS AND INTERNSHIPS

<b>Exchange Rate Volatility: Central Bank's response</b>	<i>Summer 2020</i>
<b>Reserve Bank of India, Guides: Smt. Deepa S Raj, Dr. Shromona Ganguly</b>	
Modeled the exchange rate volatility of the Rupee in the foreign exchange market and studied the response of the Central Bank under an inflation-targeting regime.	
<b>On WARP, consistency and motives in buying behaviour</b>	<i>September 2019</i>
<b>Madras School of Economics, Mentor: Prof. Purna Banerjee</b>	
Studied motives underlying consumer behaviour, and the impact of poverty on consumer rationality. Conducted an experiment that tests consumer choices for consistency based on the Weak Axiom of Revealed Preference. .	
<b>Electronic structure and thermoelectric properties of intermetallics</b>	<i>October 2018 - March 2019</i>
<b>Anna University, Guide: Prof. Vidya R.</b>	
Identified the intermetallic Yb <sub>2</sub> Ge as a novel and viable thermoelectric. Performed DFT calculations using Quantum ESPRESSO by implementing both the localised density approximation (LDA) and generalized gradient approximation (GGA) algorithms of the Kohn-Sham equation. Corrected the self-interaction error using the Hubbard parameter. Further, obtained its electronic band structure and thermoelectric figure of merit.	
<b>Modelling physical systems using the Dirac Delta Function</b>	<i>Summer 2018</i>
<b>University of Madras, Mentor: Prof. A S Vytheeswaran.</b>	
Solved the Laplace equation. Investigated some properties of the Dirac Delta function including its Fourier and Laplace transforms. Modelled impulse systems such as the hammer-blow response of a mass-spring system.	
<b>On the relation between agM, elliptic integrals &amp; the time period of a pendulum</b>	<i>Summer 2016</i>
<b>IIT Madras, Mentor: Prof Arul Lakshminarayan.</b>	
Defined the algorithm for computing the arithmetic-geometric mean (agM) of two numbers. Properties of agM were studied and trends inspected using Mathematica. Proved Gauss' theorem establishing the relation between agM and the elliptic integral using three distinct analytical ways. Using this theorem, derived approximations for the time period of a simple pendulum.	
<b>Chaos and Non-linear dynamics linked with a double pendulum - RSI '12</b>	<i>Summer 2012</i>
<b>IIT Madras Mentor: Prof Arul Lakshminarayan.</b>	
Studied chaotic maps such as the logistic map & Baker's map and linked them to biological population growth models. Constructed a double pendulum and studied its dynamics. Proposed several analytical models and solved the governing differential equations.	

## ACADEMIC ACHIEVEMENTS

- Proficiency Prize in MSc.(2019) and in BSc.(2017) for graduating first in class.
- NIUS Science Fellow at TIFR, Mumbai for pursuing Quantum Mechanics research in 2014.
- INSPIRE award in 2011 & 2010 from the Department of Science and Technology.