

# Syed Adil Ghaznavi

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## Education

- **Syracuse University** New York  
*PhD Physics* 2020 - tbd
  - Advisor: Dr. Lisa M. Manning
  - Focus: Soft Matter Physics
- **Lahore University of Management Sciences** Lahore, Pakistan  
*BS Physics* 2014 - 2018
  - CGPA 3.52
  - 2nd position in my batch
  - Advanced graduate level coursework: Advanced Calculus, Stochastic Processes, Electrodynamics, Quantum Optics, Quantum Information, Intro to Quantum Field Theory (Spring 2018), Special Topics in Condensed Matter Physics(Spring 2018)
- **University of Edinburgh** Edinburgh, Scotland  
*PostGraduate Certificate* 2018-2019

## Teaching Experience

- **Teaching Assistant** Physics 101  
*Syracuse University* Fall 2021
- **Teaching Assistant** Physics 211  
*Syracuse University* Spring 2022
- **Instructor** O Level Science Faculty  
*Brick School* September 2016 - June 2017

## Research Experience

- **Senior Project** LUMS Physics Department  
*Supervisor: Dr. Babar Qureshi, Dr. Adam Zaman* Fall 2017-Spring 2018
  - Carried out a classical analysis of black holes using general relativity. I then used quantum field theory in curved space-time to calculate the thermal radiation spectrum observed by an accelerating observer, which is known as the Unruh effect. I then used this principle to understand the Hawking effect, which is the phenomenon of black-body radiation from a blackhole.
- Directed Research Project: Used the Jaynes-Cummings model to calculate the time evolution of a Gibbs state after a measurement was performed on the atom.
- Lab Project:

- Synthesis of a superconductor and demonstration of the Meissner effect
- Setup of laboratory apparatus and development of a LABVIEW program to observe and record ferroelectric hysteresis in potassium nitrate films.
- Lab Project: Developed a program in MATLAB to analyze a video sample of two colliding pucks on a carrom board and demonstrate conservation of momentum.
- Course Project: Project on simulating and analyzing a discrete time Markov chain for the course Stochastic Processes

## Professional Experience

- **Data Analyst** Shopdev  
*August 2019-Present*
  - Currently employed as a big data analyst using SQL and Python to carry out analysis on large data sets and machine learning projects for video analysis.
- **Summer Researcher** LUMS Physics Department  
*June-August 2015*  
*Supervisor: Dr. Sabieh Anwar*
  - Developed a method of calculating the thickness of gold nanofilms using XRF (X-ray fluorescence) analysis.
- **Summer Researcher** LUMS Physics Department  
*June-August 2017*  
*Supervisor: Dr. Adam Zaman Chaudhary*
  - Worked on a theoretical project on the Quantum Zeno effect. I studied the analysis of the Zeno effect using optimal projective measurements and how to apply this technique to the Zeno effect in the strong system-environment coupling regime. I learned how to code in Python.

## Skills and Extracurriculars

- Programming Languages: MATLAB, Python, Labview, Mathematica, HTML, CSS, R
- Design Software: CREO, ARES, PROTEUS
- Event Head of Math Gauge at LUMS Psifi 2015
- Assistant Committee Director at LUMUN 2015
- Committee Director at Pakistan National MUN 2015

## Awards and Honours

- University
  - Deans Honour List (Fall 2014, Spring 2015, Spring 2017)

- 2nd in my batch

- High School

- 2 A\*s 2 As in GCSE A levels

- Full College academic blazer for distinguishing academics