Dhanus M Lal

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SUMMARY

I am a fourth year UG mathematics major at IISc, Bangalore. I am looking for internships or placements in areals related to mathematics/data science.

EDUCATION

 $High\ school[CBSE]$

CGPA-10

City Central School, Kollam, Kerala

Higher secondary[ISC]

Major: Mathematics

96%

St. John's Residential School, Kollam, Kerala

Bachelor of Science (Research) Indian Institute of Science, Bengaluru Current CGPA-8.7

SKILLS

Programming Languages & Softwares: C, C++, Python, MATLAB, \LaTeX , numpy, scipy, MPI, OpenMP

Operating Systems: Windows, Unix.

Mathematical skills: Very strong mathematical background, Linear Algebra, Measure Theory, Probability Theory, Machine Learing, Sparse Recovery

Other skills: Typing speed: 65 WPM

PROJECTS

Reading project on probability theory

June – August 2019

Advisor: Arvind Ayyer, department of mathematics, IISc, Bangalore

- Explored elementary topics in probability theory.
- Baye's theorem, conditional probabilities, conditional expectation, etc.

Modelling Bernoulli bond percolation in 2-dimensional lattice June – October 2020 With Abhinav M, University of Kerala. Github repository is linked here

• Used C and python to estimate percolation threshold in a 2D lattice

Reading project on Zorn's lemma

July - August 2021

Advisor: Arvind Ayyer, department of mathematics, IISc, Bengaluru.

 Explored the equivalence between Zorn's lemma, axiom of choice and well ordering principle.

Developed a simple board game using python Github repository is linked here.

May - June 2020

Thesis project on compressed sensing

January – present 2022

Advisor: Manjunath Krishnapur, department of mathematics, IISc, Bengaluru.

• Techniques for recovering sparse signal from a linear measurement.

ACHIEVMENTS KVPY fellow

Qualified KVPY exam in 2018 with all india rank 61.

Keysight IoT challenge 2019 entry accepted

Distributed Real-Time Air quality Indexing System concept accepted as an entry in the smart land category of Keysight IoT challenge (linked here)

OTHER ACTIVITIES

Volunteered for various events in Pravega 2018 and 2019 at IISc.

 $Performed\ Belous ov-Zhabotinsky\ reaction$ as an exhibit in the UG chemistry lab during open day IISc, 2020

Represented City Central School in South Zone Sahodaya sports meet for the events long jump, 100m sprint and 4×100 m relay.