Sahil Karawade
Curriculum Vitae (April 1, 2023)

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EDUCATION

Master of Science 2020-2022
Manipal Academy of Higher Education, Manipal, India

- CGPA-9.39/10
- 1st rank in the Department of Mathematics

Bachelors of Science 2017-2020
Ramnarain Ruia Autonomous College, Mumbai, India

- CGPA-9.288/10

PROJECT

- Proved the anti-equivalence between the category of affine varieties and the category of finitely generated integral domains over an algebraically closed field.

  Guide: Dr. Harikrishnan Panackal December 2021-March 2022

- Reading project on Homological Algebra.
  Topics covered included filtered rings and modules, completion, l-adic filtration, associated graded rings, complexes, derived functors, homological dimension.

  Guide: Dr. Kuncham Syam Prasad January 2022-May 2022
  Text:*Commutative Algebra(by NS Gopala Krishnan)*

- Independent Ongoing
  Text: *Algebraic Geometry* by *Robin Hartshorne*
  - Reading theory and solving exercises
    Solved exercises: 2.1 and 2.2.
    Solutions have been uploaded on my website.

CONFERENCES ATTENDED

1. Summer School on the Langlands Program (Virtual, 11th July-29th July).
2. Stanford Algebraic Geometry online seminar series(weekly):
   a) Donaldson-Thomas theory of the quantum Fermat quintic by Kai Behrend.

b) Resolutions of Richardson varieties, stable curves, and dual simplicial spheres by Allen Knutson.

c) Higher Fano manifolds by Enrica Mazzon.

d) Non-Archimedean Quantum k-theory and Gromov-Witten Invariants by Tony Yue YU.

e) Properness of the K-moduli space by Ziquan Zhuang.

f) Enumerative Arithmetic Geometry and Automorphic forms by Tony Feng.

g) Étale K-theory and motivic cohomology by Akhil Mathew.

3. Intercontinental Moduli and Algebraic Geometry Zoominar:
   a) $P = W$ for GL_n by Davesh Maulik.
   b) The Chow rings of moduli spaces of elliptic surfaces by Samir Canning.
   c) Gromov-Witten invariants of complete intersections by Dimitri Zvonkine.
   d) Counting surfaces on Calabi-Yau fourfolds by Younghan Bae.
4. CARAMS International workshop on Cooperative TU Games using Matrices and Graphs(worth 2 credit points), December 2021.

ADDITIONAL SCHOLARLY ACTIVITIES

- Currently writing an report(article) on Grothendieck topologies and its example.
  - Main aim is to define the Grothendieck topology and learn it via common examples.
- Teaching assistant for Prof. Harikrishnan Panackal. Duties involved taking tutorial sessions in advanced linear algebra, making and grading assignments.

TECHNICAL SKILLS

- Language - Python
- Tools and Software - GitHub, Jupyter Notebook, LaTeX, SageMath.

LANGUAGES

Marathi *(mother tongue),* **English** *(fluent),* **Hindi** *(fluent),* **German** *(basic)*