

Vaibhava Srivastava

Curriculum Vitae

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Education

- 2018-2020 **Master of Science(Mathematics)**, *Indian Institute of Technology Gandhinagar, India, CPI: 8.25.*
- 2014-2017 **Bachelor of Sciences(Honors) in Mathematics**, *University of Delhi, Acharya Narendra Dev College, India, Percentage: 92.03%.*
- 2014 **Senior Secondary School Examination**, *Kendriya Vidyalaya(KV) Dilkusha Cantt, Lucknow, India, Marks aggregate: 93.2%, Physics, Chemistry, Mathematics(PCM): 93.66%.*
- 2012 **Secondary School Examination**, *Kendriya Vidyalaya(KV) JLA Cantt, Bareilly, India, CGPA: 10/10.*

Research Experience

- May-July 2019 **SURI-2019**, SUMMER UNDERGRADUATE RESEARCH INITIATIVE, 2019 at University of Saskatchewan, Canada.
Secured **second position** in poster presentation at SURI- 2019 held at USask, Saskatchewan, Canada. We worked on the Brownian Dynamics Modelling for the Narrow Escape Problem in the case of unit sphere under the guidance of Dr. Alexey Shevyakov(shevyakov@math.usask.ca). An efficient MATLAB-based code was developed which was used to model the Narrow Escape Problem.
- June-July 2018 **SPIM 2018**, SUMMER PROGRAM IN MATHEMATICS (SPIM) in Mathematics 2018 at Harish-Chandra Research Institute(HRI), Allahabad.
The Program involves intensive lectures on Algebra (Group Theory, Field Theory), Analysis (Measure Theory, Basic Complex Analysis) and Topology (Set Topology up to homotopy theory) over a period of three weeks in the summer.
- May-June 2017 **MTTS 2017**, SELECTED IN MATHEMATICS TRAINING AND TALENT SEARCH PROGRAM Level 1 at RIE Mysore .
- June 2015-2016 **Delhi University Innovation Project ANDC – 304**, DELHI UNIVERSITY INNOVATION PROJECT under the guidance of Dr. Chaman Singh, Dr. Sadanand Prasad and Dr. Arijit Chawdhuri at Acharya Narendra Dev College, University of Delhi.
We developed a portable Electronic Nose prototype with autonomous and stand-alone operation for quantified Ambient Air Pollution (AAP) measurement using wireless data transfer protocol on Android enabled phone.
- June-July 2016 **IAS-SRFP 2016**, INDIAN ACADEMY OF SCIENCES SUMMER RESEARCH FELLOWSHIP PROGRAM IAS-SRFP 2016 under the guidance of Dr. Sanoli Gun at IMSc Chennai.
A summer research project about analyzing structure of groups and rings. Report was selected and approved by the Indian Academy of Sciences.
- July 2016 **FACETS 2016**, *Attended FACETS 2016, the 2016 edition of the IMSc outreach program for advanced undergraduate.*

Poster Presentations

- Nov 2019 Short project and presentation on IMAGE PROCESSING USING DIFFUSION EQUATION.
- July 2019 Secured **second position** in poster presentation on BROWNIAN DYNAMICS MODELLING FOR THE NARROW ESCAPE PROBLEM at SURI-2019 held at USask, Saskatchewan, Canada.

- π Day 2019 Presented poster on THE TOPOLOGICAL PROPERTIES OF STEREOGRAPHIC PROJECTION AND ITS APPLICATIONS IN THE REAL WORLD at IIT, Gandhinagar, India.
- May 2019 Presented and designed the 3-D GEODESICS, THE ICOSAHEDRON at IIT, Gandhinagar.
- October 2018 Presentation on FOLKTALE AND ITS HISTORICAL SIGNIFICANCE IN THE AWADH REGION at IIT, Gandhinagar, India.

Workshops and Lectures Attended

- Nov 2019 Attended a talk by Prof. Bruce C. Berndt (UIUC) about LIVING WITH RAMANUJAN FOR 40+ YEARS.
- May 2019 Attended a short course, POLYHEDRA GEODESICS AND PRODUCT DESIGN conducted by Dr. Manish Jain.
- Dec 2017 Attended a talk by Field Medalist Prof. Efim Zelmanov (USCD) about MATHEMATICS: SCIENCE OR ART.
- July 2016 Attended a talk by Prof. Amritanshu Prasad (IMSc) about GROUP THEORY: THE LANGUAGE OF SYMMETRY.
- July 2016 Attended a talk by Prof. Sunita Vutuk (CUNY) about LIE-GROUPS: A QUICK TOUR OF SYMMETRIES AND INVARIANCE IN MATH, PHYSICS AND ENGINEERING.
- July 2016 Attended a talk by Prof. Arul Shankar about AVERAGE RANK OF ELLIPTIC CURVE.
- 2016 Attended a Workshop of DIGITAL INDIA: CHALLENGES AND BENEFITS at Department of Computer Sciences, Acharya Narendra Dev College College, University of Delhi.
- Feb 2015 Attended a lecture on ARTIFICIAL NEURAL NETWORKS AND APPLICATION TO PHYSICS by Prof. Ramesh K Agrawal (School of Computer and Systems Jawaharlal Nehru University) at University of Delhi.
- 2015 Attended a talk by Prof. R.K Sharama (IIT Delhi) on ROLE OF CRYPTOGRAPHY IN REAL LIFE at University of Delhi.
- 2015 Attended a talk by Dr. David Kochman from (Jozef Stefan Institute, Ljubljana, Slovenia) on AMBIENT AIR POLLUTION ABOUT HIS COUNTRY, INSTITUTE AND ABOUT THE RESEARCH THEY ARE CARRYING OUT.
- 2014 Attended a talk by Prof. Shobha Bhagai about Significance of MATHEMATICAL MODELLING AND FLUID DYNAMICS at University of Delhi.

Courses Taken

- Mathematics **Applied Mathematics:** Partial Differential Equations, Ordinary Differential Equations and Mathematical Modelling, Advanced Probability Theory, Numerical Methods and Programming, Linear Programming and Theory of Games, Calculus.
- Pure Mathematics :** Algebraic Topology, Introduction to Functional Analysis, Complex Analysis, Topology, Measure Theory, Introduction to Linear Algebra, Basic Algebra, Topics in Real Analysis.
- Interdisciplinary Courses Probability and Statistics, Discrete Mathematics, Physics(theory and lab course), Chemistry(theory and lab course), Environmental Studies, Foundational Sanskrit, Introduction to Computing, Academic and Scientific Writing.

Computer Skills

- Software **Numerical and Scientific Computing Libraries :** MATLAB MATHEMATICA, NUMPY.
- Other Mathematical Softwares :** SQL, TORA, SPYDER(IDE).
- Languages \LaTeX , PYTHON, C++.

OS Working with Linux for the last 3 years, Distributions: UBUNTU, PEPPERMINT, FEDORA, openSUSE.

Worked with WINDOWS for the 6 years, Distributions: WINDOWS 7,8,10.

Familiar OS Windows: XP, Vista, Mac OS.

Teaching Experience

- o Advanced Mathematics Tutor at CHEGG.
- o Member of PROBLEM SOLVING GROUP at IIT, Gandhinagar.

Achievements

2014 Section topper in B.Sc Mathematics.

2012 Scout and Guide Rajyapuraskar award holder.

2010 School topper in Secondary School Examination, CPI 10(on the scale of 10).

Inter-Intra School level Various prize winner in Co-Curricular Activities held in Regional as well as Inter-School level.

Community Service

2009-2014 The Bharat Scouts and Guides

- o Rajyapuraskar Awardee
- o Worked for the welfare of the rural areas of India.
- o Active volunteer for various literary programs conducted for the rural areas.

2018-2019 NEEV

- o Worked as volunteer for nurturing and empowering rural peoples.

Other Co-curricular Activities

2019 Organizer of MATHEGON : Mathematical fest of IIT-GN.

2014-2017 Organizer of MATRIX : Mathematical fest of ANDC.

Languages

HINDI: Native

ENGLISH: Fluent

SANSKRIT: Basic