Ravi Suthar

Curriculum Vitae

VPO- Phephana, Nohar
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Research Career Objective

A first-division master's graduate with a strong interest in multidisciplinary research. Aspire to employ this solid academic foundation and research skills to address some prevailing research problems in Algebra, particularly Group Theory. Ph.D. from a world-class institute would be an opportunity to diversify my knowledge and specialized skills to solve complex problems with simple, enduring, and cost-effective methods.

Field of Specialization

Algebra, Number Theory

Academics

2020-2022   **Master of Science in Mathematics**, *DR B R Ambedkar National Institute of Technology*, Jalandhar, India.
- **Specialization**: Algebra
- **Grade**: 8.07/10 CGPA
- **Relevant Modules:** Linear Algebra, Abstract Algebra, Number Theory, Numerical Analysis, Topology.

2016-2019   **Bachelor of Science**, *S S Jain Subodh PG College, Jaipur*, Rajasthan, India.
Grade: 64.94/100 Percentage

Professional Activities

Aug 2023   Lecture Series on Number Theory: SLIET Longowal

June 2023- August 2023   **Summer Intern**, *Ecole Centrale School of Engineering at Mahindra University, Hyderabad, India*
- Thesis Supervisor: Dr Pradeep Kumar Rai, Department of Mathematics, Mahindra University, Hyderabad, Telangana, India.
- A proof of Sylow's theorem utilizing group action theory, the Nilpotent group, the theory of commutators, and subgroups generated by small conjugacy classes were all concepts that I studied throughout the term.
- Grant: ₹10,000

Dec 2021	**Seminar**
	○ Research Trends in Communication and Signal Processing- NIT Jalandhar
	○ Singular Value Decomposition and its applications- NIT Jalandhar.
	* I presented the findings concerning the applicability of Singular Value Decomposition to image compression. Furthermore, I executed the research using Matlab, focusing on one of its functionalities: the rank reduction of rectangular matrices by eliminating minor singular values.
May 2021	**Workshop**, *Jordan Canonical Forms*, CUSB

Research Experience

Mar 2022-Aug 2022	**M.S. Thesis**
	○ **Title:** "Jordan Canonical Form and its Consequences".
	○ **Thesis Supervisor**: Dr Ravinder Kumar, Department of Mathematics, NIT Jalandhar, India.
	○ **Summary of M.S. Research Project**: This dissertation aimed to study Jordan's decomposition of a square matrix and its consequences. We discuss the Jordan matrix's existence and uniqueness (up to permutation) and how to obtain the Jordan chain. There are many consequences; one is to solve a system of ordinary differential equations with initial conditions using matrix exponential. Then, we study an algorithm to compute the Drazin inverse of a singular matrix. Further, we study the Jordan decomposition of the product of a Positive Semidefinite and a Hermitian matrix.

Technical Skills

Programming Languages	○ C++: Completed master's course with graded assignments and lab exams with excellent grades.
	○ MATLAB: Completed master's course with graded assignments and lab exams with excellent grades.
Software	LaTeX

English Language Proficiency and Test Scores

Dec-2023	**IELTS**, *Test Score- 7.0*, (R 7.0, L 6, W 6.5, S 7.5)

Honours and Awards

○ AIR 943/12463 at Indian Institute of Technology Graduate Aptitude Test in Engineering, 2023.
○ AIR 1692/13518 at Indian Institute of Technology Graduate Aptitude Test in Engineering, 2022.
○ AIR 854/14374 at Indian Institute of Technology Joint Admission Test for Masters, 2020.

Languages

English	**Conversationally fluent**
Hindi	**Conversationally fluent**
Punjabi	**Can understand**

Extracurricular Activities

○ Participated in the Chess competition "Knights and Kings," a collaboration of SciRox GNDU and PSS NITJ.
○ Placement Representative: NITJ Placement Committee member.
○ Hostel Secretary: Hostel-6, NIT Jalandhar.

Recommendations

Algebraist Dr Ravinder Kumar, Department of Mathematics, NIT Jalandhar.

Algebraist Dr Pradeep Kumar Rai, Department of Mathematics, Mahindra University Hyderabad.

Algebraist Dr Ravinder Singh, Department of Mathematics, NIT Jalandhar.