

RESEARCH
INTERESTS

Scalable Algorithms for Data Science, Dimension Reduction/Sketching Algorithms, Machine Learning.

EDUCATION

Ph.D. Scholar

Indian Institute of Technology Mandi,
Himachal Pradesh, India.

February 2019 - Present

CGPA: 9.38/10

Master of Science in Applied Mathematics

Indian Institute of Technology Mandi,
Himachal Pradesh, India.

August 2016 - June 2018

CGPA: 8.8/10

Bachelor of Science (B.Sc.)

Himachal Pradesh University, Shimla, India.

August 2012 - June 2015

Percentage: 63.75%

JOURNAL
PUBLICATIONS

1. *Unbiased Estimation of Inner Product via Higher Order Count Sketch*. **Bhisham Dev Verma**, Rameshwar Pratap and Manoj Thakur. *Information Processing Letters* 183 (2023): 106407. ([Paper link.](#)) ([Impact factor 0.5](#)) ([Ranking Q3](#)).
2. *Variance reduction in Feature Hashing using MLE and Control Variate Method*. **Bhisham Dev Verma**, Rameshwar Pratap, and Manoj Thakur. *Machine Learning* 111.7 (2022). ([Paper link.](#)) ([Impact factor 5.41](#)) ([Ranking Q1](#)).
3. *Efficient Binary Embedding of Categorical Data*. **Bhisham Dev Verma**, Rameshwar Pratap and Debajyoti Bera. *Data Mining and Knowledge Discovery* 36.2 (2022): 537-565. ([Paper link.](#)) ([Impact factor 5.4](#)) ([Ranking Q1](#)).
4. *Dimensionality Reduction for Categorical Data*. Debajyoti Bera, Rameshwar Pratap, and **Bhisham Dev Verma**. *IEEE Transactions on Knowledge and Data Engineering* (2021). ([Paper link.](#)) ([Impact factor 9.2](#)) ([Ranking Q1](#)).
5. *QUINT: Node embedding using network hashing*. Debajyoti Bera, Rameshwar Pratap, **Bhisham Dev Verma**, Biswadeep Sen, and Tanmoy Chakraborty. *IEEE Transactions on Knowledge and Data Engineering* (2021). ([Paper link.](#)) ([Impact factor 9.2](#)) ([Ranking Q1](#)).
6. *Parallel multi-agent real-coded genetic algorithm for large-scale black-box single-objective optimisation*. Andranik S Akopov, Levon A Beklaryan, Manoj Thakur, **Bhisham Dev Verma**. *Knowledge-Based Systems* 174 (2019): 103-122. ([Paper link.](#)) ([Impact factor 5.92](#)) ([Ranking Q1](#)).

CONFERENCE
PUBLICATIONS

7. *Improving Sign-Random-Projection via Count Sketch*. Punit Pankaj Dubey, **Bhisham Dev Verma**, Rameshwar Pratap, and Keegan Kang. *In the 38th Conference on Uncertainty in Artificial Intelligence (UAI), pages 599-609, 2022*. ([Paper link](#)) ([Core A](#)).
8. *Improving Tug-of-War sketch using Control-Variates method*. Rameshwar Pratap, **Bhisham Dev Verma**, and Raghav Kulkarni. *In the SIAM Conference on*

Applied and Computational Discrete Algorithms (ACDA21), pages 66-76, 2021.
([Paper link](#)).

TEACHING EXPERIENCE

- Teaching Assistant at IIT Mandi in Applied Mathematical Programming (Aug-Dec 2023), Probability & Statistics (Feb-July 2023), Computational Financial Modelling (Feb-July 2022, Aug-Dec 2020), Matrix Computations for Data Science (Aug-Dec 2021), Statistical Foundations of Data Science (Feb-July 2021), Programming Practicum (Feb-July 2020), Data Science 1 (Aug-Dec 2019), Optimization Techniques (Feb-June 2019).

CONFERENCE TALKS

- “*Improving Tug-of-War sketch using Control-Variates method*” at SIAM Conference on Applied and Computational Discrete Algorithms (ACDA21), July, 2021.

WORKSHOP & SUMMER SCHOOLS

- Attended Workshop on Algorithms under Uncertainty (16-17 Dec 2022) organized at the Department of Computer Science and Engineering, Indian Institute of Technology Madras, Chennai, India.
- Attended Research Week with Google organised by Google Research India, Feb 8-11, 2022.
- Attended Google Research India Graduate Symposium, April 7-9, 2021.
- Attended IFCAM Summer School Workshop 2019 on Mathematics For Data Science, IISc Bangalore.
- Attended Summer Program in Mathematics-2017, HRI-Allahabad.

PROFESSIONAL SERVICES

- Referee Service: UAI-2023, AISTAT- 2022, SoCPros 2022.

HONORS AND AWARD

- Awarded Best Teaching Assistant Award - 2021 by Indian Institute of Technology Mandi in recognition of contribution in the preparation of assignments and clearing doubts of the students in the Data Science 1 course.
- Awarded Outstanding Academic Achievement Award for academic excellence among the graduating batch of MSc Applied Mathematics students in the year 2018.
- Qualified Graduate Aptitude Test in Engineering (GATE) 2018 in Mathematics.
- Awarded Merit cum Mean Scholarship by “IIT Mandi” for the period of one year, from August 2016 to July 2017.

TECHNICAL SKILLS

C, Python, Matlab, LaTeX.

PERSONAL INFORMATION

Nationality	Indian
Date of Birth	14th June 1995
Languages	English, Hindi
Current Location	IIT Mandi, Himachal Pradesh, India.

WEB LINKS

[Homepage](#), [Google Scholar](#)

REFERENCES

- Dr. Rameshwar Pratap, Assistant Professor in the Department of Computer Science and Engineering at IIT Hyderabad. *E-mail*: rameshwar@cse.iith.ac.in
- Dr. Manoj Thakur, Professor in the School of Mathematical & Statistical Sciences at IIT Mandi. *E-mail*: manoj@iitmandi.ac.in