Ujjwal Kumar Mishra

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EDUCATION

Indian Institute of Technology Madras
Ph.D., Department of Mathematics   Dec, 2016–March, 2022
Ph.D. Area: Automata Theory, Combinatorics of Words(Discrete Mathematics, Theoretical Computer Science)
Thesis: Watson-Crick Jumping Finite Automata: Variants, Comparison, & Closure
Advisors: Prof. Kalpana Mahalingam, Prof. Rama R.

Central University of South Bihar
M.Sc. Mathematics   2014–2016
CGPA: 8.37/10

Patna University   Patna Science College
B.Sc. Mathematics (Honours)   2011–2014
Marks: 85 %

Chhattisgarh Board of Secondary Education, Raipur   Sarswati H S School
+2, PCM   2008–2010
Marks: 91 %

PUBLICATIONS

1. **JOURNAL PUBLICATIONS**

   (a) Mahalingam, K. Mishra, U. K., Rama R.: Watson-Crick Jumping Finite Automata. International Journal of Foundations of Computer Science, Vol. 31, No. 7, (2020)

   (b) Mishra, U. K., Mahalingam, K., Rama R.: Watson-Crick Jumping Finite Automata: Combination, Comparison and Closure. The Computer Journal, doi.org/10.1093/comjnl/bxaa166, (2021)

2. **PUBLICATIONS IN CONFERENCE PROCEEDINGS**

   (a) Mahalingam K., Rama R., Mishra U. K.: Watson-Crick Jumping Finite Automata. In: Gopal T., Watada J. (eds) Theory and Applications of Models of Computation. TAMC 2019. Lecture Notes in Computer Science, vol 11436. pp-467-480 Springer (2019)

   (b) Mishra, U. K., Mahalingam, K., Rama R.: Note on Distributivity of Different String Operations over Language Sets. Proceedings of an international conference of the Forum for Interdisciplinary Mathematics, Springer (2020)(accepted)

3. **ARXIV PAPAERS:**

   (a) Mishra, U. K., Mahalingam, K., Rama R.: Generalized Linear One-Way Jumping Finite Automata. *arXived*, arXiv:2106.02937v1

   (b) Mishra, U. K., Mahalingam, K., Rama R.: Generalized Circular One-Way Jumping Finite Automata. *arXived*, arXiv:2106.03852v1

Conference Presentations

1. Mahalingam K., Rama R., Mishra U. K.: Watson-Crick Jumping Finite Automata. TAMC: International Conference on Theory and Applications of Models of Computation (2019)

2. Mahalingam, K., Rama, R., Mishra, U. K.: Distributivity of Duplication Operations over Language Sets. International Conference on Discrete Mathematics (2019)

Country Visited for Academic Purpose

- Visited Japan to attend 15th Annual Conference on 'Theory and Application of Models of Computation' (TAMC 2019). I presented the paper 'Watson-Crick Jumping Finite Automata' in the conference.

Scholarships and Awards

- NET with JRF (AIR 51)   June 2016

Teaching

- Teaching Assistant at IIT MADRAS for the following courses:

  Series and Matrices(MA1102)   Jan-May 2018

  Series and Matrices(MA1102)   Jan-May 2019

  Series and Matrices(MA1102)   Jan-May 2020

  Ordinary Differential Equations(MA5390)   July-Nov 2020

  Series and Matrices(MA1102)   Jan-May 2021

Languages

- Maithili (Read, Speak)
- Hindi (Read, Write, Speak)
- English (Read, Write, Speak)

Strengths

- I am a young and energetic fellow. I am ready to learn new stuff in terms of research and teaching and work hard for myself and the betterment of an institution.
- I have extensive and in-depth knowledge of my subject, which means my students will get to learn beyond the minimum standards.
- I would like to consider myself to be a highly effective presenter who has an understanding of how to deliver complex lessons that would otherwise be difficult for students to understand.
- I am highly organized and able to plan my work and create lesson plans accordingly to deliver consistently high standards of teaching.

Extracurricular Activities

- Volunteer in IIT For Villages (IViL)   2018–2021
  IViL is a student body of IIT MADRAS active in rural development activities. I volunteered in many activities of IViL such as TEL school project, cycle donation project, e-Vidyaloka online teaching project, Foodstall, Village visits, etc.

- Department of Mathematics Legislator (Research)   2018 –2019
  I was Research Legislator of the department of mathematics at IIT Madras.

- Super Coordinator   March 2019
  Forays is the annual mathematics festival of the department of mathematics of IIT Madras. I was super coordinator of one of the events 'Clash of Institutes' of Forays.

References

Prof. Kalpana Mahalingam
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