# Dr. Kavita Singh

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**Educational Qualification**

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| **Qualification** | **University/Board** | **Name of Institute** | **Percent** |
| 10th | Uttar Pradesh Board | Lourdes Convent Girls College, Ghazipur, India | **75.8%** |
| 12th | Uttar Pradesh Board | Lourdes Convent Girls College, Ghazipur, India | **74%** |
| B.C.A. | Veer Bahadur Singh  Purvanchal University Jaunpur | Technical Education and  Research Institute, Ghazipur, India | **79.7%** |
| M.C.A | Pt. Ravishankar Shukla University  Raipur | Pt. Ravishankar Shukla University, Raipur, India | **82.07%**  ***Gold Medallist*** |
| Ph.D | National Institute of  Technology (NIT) Raipur | National Institute of Technology (NIT)  Raipur | NA |

**Technical Knowledge & Skill**

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| Web Technologies and Frameworks: | **Angular**, **NodeJS, Express, Ionic, ASP.NET with MVC 4** |
| Languages: | **C, C++, R** |
| Database: | **Oracle10g, PostGres, MySQL, SQL Server** |

**Work Experience**

1. Worked as Programmer in ***National Informatics Center,*** Government of India, Raipur, India from **2012 to 2015**.
2. Worked as Project Staff in the **Department of Science and Technology-Science and Engineering Research Board**, (Government of India) sponsored project “Metaheuristics techniques for NP- Hard Minimum Spanning Tree Problem” under the supervision of Dr. Shyam Sundar in the ***National Institute of Technology Raipur,*** Raipur India from **2017 to 2019**.
3. Currently working as Software Developer in Chhattisgarh Infotech Promotion Society (CHiPS) **from 2021**.

# Total work experience: About 6 years.

***Project Details:***

***Project-1: Right of Way (RoW) Policy, Chhattisgarh***

The "Right of Way" (RoW) policy is the state government policy for the development of the telecom infrastructure in the State of Chhattisgarh.

The main objective of this project is to simplify licensing procedure that is required to establish underground/overground telecom infrastructure through developing a **web based project tracking system**.

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| Project Name | RoW Chhattisgarh |
| Technology | PHP, MySql |
| Version Control | GIT |
| URL | https://row.cgstate.gov.in/ |

## Project-2: Rajeev Yuva Mitaan Club Scheme, Chhattisgarh

Rajiv Yuva Mitan Club Scheme has been launched to promote social and sports activities in both rural and urban areas through the establishment of various clubs.

The objective of this project is to facilitate efficient management system for clubs.

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| Project Name | Rajeev Yuva Mitaan Club Scheme Chhattisgarh |
| Technology | ANGULAR 12, NODEJS, EXPRESS, MySql |
| Version Control | GIT |
| URL | [http://rajeevyuvamitaanclub.cgstate.gov.in/#/ho](http://rajeevyuvamitaanclub.cgstate.gov.in/%23/ho) me |

## Project-3: Chhattisgarh State Portal (CGSTATE-PORTAL)

It is an official website for Chhattisgarh government. It also act as state service delivery gateway for Chhattisgarh state.

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| Project Name | CGSTATE Chhattisgarh |
| Technology | ANGULAR 12, NODEJS, EXPRESS, MySql |
| Version Control | GIT |
| Status | In Progress |

## Project-4: Web Application for Directorate of Treasury Chhattisgarh

This project is based on developing **Online Billing System** for Directorate of Treasury Chhattisgarh.

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| Project Name | “e-Bill”, Billing System for Directorate of Treasury (C.G) |
| Technology | C#, ASP.NET, Java Script , Oracle 10g, Ajax |
| URL | <http://ekoshonline.cg.nic.in/eBill/> |

## Project-5: Web Application for Chhattisgarh State Finance Commission

This project is based on developing Website & Web Application for Chhattisgarh State Finance Commission.

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| Project Name | Web Application for Chhattisgarh State Finance Commission |
| Technology | C#, ASP.NET, Java Script , SQL-Server |
| URL | <http://cg.nic.in/sfc/> |

## Project-6: Major Project: “e-Kosh Online”

As a part of the fulfillment of the 6thSemester and award of final master degree, the final project on “e-Kosh Online” is being carried out by me from NIC, Raipur, and Chhattisgarh. For this project assignment, I have been selected by NIC, on the basis of percentage from the previous record/scores.

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| Project Name | “e-Kosh” Online |
| Technology | C#, ASP.NET, Java Script , Oracle 10g |

**Ph.D Research Area**

# Ph.D Research Area

My research focuses on developing heuristic and metaheuristic techniques for the solution of NP- Hard combinatorial optimization problems. Especially, I am interested in designing problem- specific genetic/neighborhood operators for the metaheuristic techniques that can effectively tackle hard and large combinatorial optimization problems. **For data analysis I am using R language.**

## Research Project: Metaheuristics Techniques for NP-Hard Spanning Tree Problems

This project work revolves around the development of problem-specific heuristic and metaheuristic technique for the solutions of different NP-Hard Spanning Tree Problems.

**Journal Papers (Published/Communicated)**

1. Kavita Singh and Shyam Sundar (2018): Two new heuristics for the dominating tree problem ***Applied Intelligence, Springer-Verlag*,** Volume-48, Issue 8, pp 2247-2267 **[SCI Journal Impact Factor: 2.882]** https://doi:10.1007/s10489-017-1075-0.
2. Kavita Singh and Shyam Sundar (2018): Artificial bee colony algorithm using problem- specific neighborhood strategies for the tree *t*-spanner problem ***Applied Soft Computing, Elsevier*,** Volume-62, pp 110-118, **[SCI Journal Impact Factor: 4.873]** [https://doi.org/10.1016/j.asoc.2017.10.022.](https://doi.org/10.1016/j.asoc.2017.10.022)
3. Kavita Singh and Shyam Sundar (2019): A new hybrid genetic algorithm for the maximally diverse grouping problem ***International Journal of Machine Learning and Cybernetics, Springer Berlin Heidelberg*,** pp 1-20 **[SCI Journal Impact Factor: 3.844]** [https://doi.org/10.1007/s13042-018-00914-1.](https://doi.org/10.1007/s13042-018-00914-1)
4. Kavita Singh and Shyam Sundar (2019): A hybrid steady-state genetic algorithm for the min-degree constrained minimum spanning tree problem ***European Journal of Operational of Operational Research, Elsevier*,** Volume-276, pp 88-105, **[SCI Journal Impact Factor: 3.806]** [https://doi.org/10.1016/j.ejor.2019.01.002.](https://doi.org/10.1016/j.ejor.2019.01.002)
5. Kavita Singh and Shyam Sundar (2019): A hybrid genetic algorithm for the degree- constrained minimum spanning tree problem ***Soft Computing, Springer Berlin Heidelberg*,** pp 1-18 **[SCI Journal Impact Factor: 2.784])** [https://doi.org/10.1007/s00500-019-04051-x.](https://doi.org/10.1007/s00500-019-04051-x)
6. Kavita Singh and Shyam Sundar: Artificial Bee Colony Algorithm using Permutation Encoding for the Bounded Diameter Minimum Spanning Tree Problem **(Communicated]).**

**Conference Papers**

* 1. Kavita Singh andShyam Sundar (2018): A Heuristic for theBounded DiameterMinimum Spanning Tree Problem. 2nd International Conference on Intelligent Systems, Metaheuristics & Swarm Intelligence (ISMSI 2018), March 24-25, 2018, **Phuke**t, Thailand. doi>10.1145/3206185.3206202**(Published)**
  2. Kavita Singh andShyam Sundar (2017): A Heuristic for the Degree-Constrained Minimum Spanning Tree Problem. 2ndInternationalConferenceon Soft Computing: Theories and Applications (SoCTA 2017), Springer,22-24 December 2017, Jhansi- India[.](https://doi.org/10.1007/978-981-13-0589-4_33) [https://doi.org/10.1007/978-981-13-0589-4\_33.](https://doi.org/10.1007/978-981-13-0589-4_33) **(Published)**
  3. Kavita Singh andShyam Sundar (2017): A New Heuristic for Degree-Constrained Minimum Spanning Tree Problem. International ConferenceonComputational Intelligence: Theories, Applications and Future Directions (ICCI 2017), Springer, 6-8 December 2017, **IIT Kanpur- India**. [https://doi.org/10.1007/978-981-13-1132-1\_12.](https://doi.org/10.1007/978-981-13-1132-1_12) **(Published)**

**Award**

1. 2019: Received Post-Doctoral research fellowship **from IFSTTAR Research-Lab Lille France.**
2. 2017: Junior Research Fellowship under **Department of Science and Technology- Science and Engineering Research Board** (SERB), (Government of India) sponsored project.
3. Gold Medallist award for the Master degree from Pt. Ravishankar Shukla University, Raipur, India.

**Personal Profile**

**Father’sName:** KRISHNA KUMAR SINGH

**Gender:** Female

**Nationality:** Indian

**Address:** House No 23 ShreeJi Dwarika Colony Amlihdih Raipur C.G