

RAJAN GUPTA

www.rajana-gupta.com

DATA SCIENCE PROFESSIONAL & RESEARCHER - SUMMARY

I am a Data Science professional, researcher and educator, learning new ways to deal with various business and research problems through technological/analytical tools. I possess more than 8 years of combined experience in teaching, research and consulting in the field of data science. I want to work in an environment where my technical skills, academic skills, consulting skills and research skills can be challenged and enhanced, in the area of Data Science.

- Have working knowledge of application of various data science concepts through statistical techniques, operation research & optimization techniques, data mining, artificial intelligence and machine learning techniques across multiple industries (healthcare, retail, education, finance) and domains (marketing, HR, operations). Also have substantial experience of working on research & analytics projects in the area of Information Systems, E-Governance and Public Schemes Assessment.
- One of the few Analytics professional in India to have CAP (INFORMS) and GStat (ASA) certification & accreditation, respectively. Also serving as the CAP Ambassador in Asia Region for INFORMS. Possess management consulting certification from Govt. of India.
- Hands-on experience of using various analytical & development tools like SPSS, R, Python, Tableau/MS Power BI, MS Excel and MATLAB.
- Exposure of training and teaching in specialized areas of IT & Analytics. Conducted trainings for professionals and fresher in the area of Data Science.
- UGC NET-JRF Qualified, which is national level exam for teaching at central universities. Have been involved in student teaching, supervising the students on various projects related to data science, and assessing the students through exam paper setting and checking at post-graduate and under-graduate level. Have also been involved in course designing and implementation at University level.
- Efficient in Report preparation and Article writing. Can prepare Research proposals, Research Frameworks, Data Source identification, Data Collection Framework and Data Preparations. Experience in handling teams of up to 50 people for project execution.

EDUCATION

- **Ph.D** - Department of Computer Science, University of Delhi, 2019
- **EPBABI** - Analytics and Business Intelligence, IIM-Ranchi, India, 2014
- **PGPM** - Executive Management Program, IMT-CDL, Ghaziabad, India, 2012
- **MCA** - Department of Computer Science, University of Delhi, India, 2011
- **B.Sc.(H)** - Department of Computer Science, University of Delhi, India, 2008
- **Class 12th** – Bal Bharati Public School, Rohini, Delhi, India, 2004
- **Class 10th** – Bal Bharati Public School, Rohini, Delhi, India, 2002

PROFESSIONAL CERTIFICATIONS

- **Certified Analytics Professional (CAP) - INFORMS, USA**
This is one of the best certifications in the field of Analytics in the world. I was from the first batch of Indians to clear this certification. Later on, I became the CAP-Ambassador in Asia Region. I am involved in course preparation, question bank review & preparation, and helping aspiring candidates to clear this certification. I have also written a book on exam preparation for CAP and aCAP, which is recognized well in the global market.
- **Graduate Statistician (GStat) - American Statistical Association (ASA), USA**
This is the highest level of accreditation, after PStat, given in the field of statistics around the world. I was amongst the first Indian batch to get this accreditation.
- **Certified Management Consultant (CMC) - CDC, Government of India**
This is the management consulting certification offered by Consultancy Development Centre of India. This is a government certification which is helpful in getting and managing the consulting projects all over the world.
- **National Eligibility Test (NET) JRF - University Grant Commission (UGC), India**
This is the highest national level certification in India which is mandatory for the individuals to teach in higher education institutions and universities in India. Junior Research Fellowship (JRF) is one of the most coveted fellowship in India for researchers to pursue PhD in India.

ACADEMIC CERTIFICATIONS

- Winter School in Artificial Intelligence, IIT Delhi, India – March 2019
- Certification in Tableau, Ernst Young, Gurugram, India – March 2019
- Faculty Development program on Network Science, Department of Computer Science, University of Delhi, India – December 2018
- Regression Analysis, NPTEL – May 2017
- Biostatistics for Big Data Applications, The University of Texas System – April 2017
- Linear Regression Analysis and Forecasting, NPTEL – April 2017
- Applied Biostatistics, Osaka University – February, 2017

ACADEMIC EXPERIENCE

ASSISTANT PROFESSOR, 01/2018 to Present

Department of Computer Science, Deen Dayal Upadhyaya College, University of Delhi, India

- Taught different subjects to the under-graduate students - Programming Languages like Python & C++, Design and Analysis of Algorithms, Internet Technologies, and Office Automation Tools
- Involved in the administrative procedures of student admission, induction programs, organizing college festival and managing the placement drive for the students
- Contributed in the design and checking of final exam question papers at University level
- Helped the college in preparing for National level accreditation like NAAC
- Managed Data Analytics Club which organized activities like Seminars, Workshops, Hackathons, and Career guidance to students. Also delivered in-house lectures on Recommender Systems and Data Mining applications for the students.

GUEST LECTURER, 07/2018 to 12/2018

Department of Computer Science, Faculty of Mathematical Sciences, University of Delhi, India

- Taught Information Security and Analysis to Post-graduate students. Also got involved in preparation and checking of exam papers for post-graduate students.
- Supervised students on the projects like development of Anti-virus systems and Implementing unsupervised techniques to design Intrusion Detection System.

ASSISTANT PROFESSOR, 07/2017 to 01/2018

Department of Computer Science, Faculty of Mathematical Sciences, University of Delhi, India

- Taught subjects like Statistics and Data Mining using R to the post-graduate students
- Involved in the administrative procedures of student admission, induction programs, organizing college festival and managing the placement drive for the students
- Contributed in the design and checking of final exam question papers at University level
- Helped the college in preparing for National level accreditation like NAAC
- Supervised students on projects like development of Statistical calculator, Market Basket Analysis, Text recommender system using NLP, and Classification of customers.

GUEST LECTURER, 01/2013 to 12/2014

Institute of Management Technology (IMT) – Center for Distance Learning (CDL), India

- Taught subjects like Market Research, Quantitative Techniques and Operations Research to the post-graduate students.
- Guided students on final semester projects related to Data Analytics in Marketing and HR.

GUEST LECTURER, 01/2012 to 10/2012

Keshav Mahavidyalaya, University of Delhi – Delhi, India

- Taught subjects like Operating System and DBMS to the under-graduate students.

RESEARCH EXPERIENCE

RESEARCHER, 09/2019 to Present

Department of Economic and Social Affairs, United Nations (UNU-EGOV)

Working on local E-Government assessment for the United Nations' Department of Economic and Social Affairs as a part of the team for 2020 UN E-Government Survey report. This assessment will be used for the bi-annual publication of United Nation on E-Governance Development Assessment (<https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2018>). Representing India amongst the various researchers and covering the assessment of Delhi as one of the 100 cities to be assessed worldwide.

SENIOR RESEARCH FELLOW, 04/2015 to 07/2017

Department of Computer Science, Faculty of Mathematical Sciences, University of Delhi, India

Worked on research problems related to Information Systems & Security through E-Governance in developing nations as part of PhD program. Specific problems studied are as follows:

- Developed E-Governance development assessment index and implemented it on 36 states of India using 19 variables for year 2014 & 2016. My index made the ranking system more efficient by 20-25%.

- Solved the facility location allocation problem for Rural Kiosks using Clustering and Nature inspired Algorithm. My technique improved the cost within the system by 10-20%. Published paper at Applied Intelligence Journal of Springer (<https://goo.gl/tpCt42>).
- Worked on optimizing the Intrusion Detection System within a computer network using 6 parameters on 2GB data through Clustering and Nature inspired Algorithm. My technique improved the detection rate by 15%.

Also helped the professors in writing research grant proposal for various national level projects funded by Government of India and managing the funded research projects at University level.

JUNIOR RESEARCH FELLOW, 03/2013 to 03/2015

Department of Computer Science, Faculty of Mathematical Sciences, University of Delhi, India
 Joined the PhD program and worked on research problems related to Information Systems & Security through E-Governance in developing nations. Worked on three research books and multiple research publications during the fellowship period.

REVIEWER, 2017 to Present

Multiple Journals and Conferences

Worked as independent reviewer for reputed conferences and journals like:

- Transforming Government, Emerald
- International Journal of Fuzzy Logic and Intelligent Systems
- Book Chapters on Analytics and E-Governance, IGI Global
- International Journal of End-User Computing and Development (IJEUCD), IGI Global
- DEXA 2017; ECML PKDD 2017 (tier 1 conference on data mining)
- Second edition of International Conference on Advanced Computational and Communication Paradigms -2019 (ICACCP-2019), IEEE
- TPC - 4th Symposium on Emerging Topics in Computing and Communications (SETCAC), 2019
- Programme Committee Member – ICEGOV 2020, Tier 1 conference in E-Governance

AUTHOR, 2016 to Present

Wrote and published books, thesis and multiple papers at various international and national forums. List of Publications given at the end.

CONSULTING EXPERIENCE

CONSULTANT – RESEARCH & ANALYTICS, 01/2013 to 06/2017

INauctus, India

INauctus was a service brand managed by ThreeXFive Consultancy LLP and Go Harness India Pvt Ltd. Work profile included carrying out projects in the different domains of Research and Analytics. Major activities included Research Proposal & framework development along with data analysis using R, SPSS & MATLAB. Some of the specific projects managed by me are:

- **Optimization of ICT Center's Location Allocation using Advanced Analytics:** Regional Authorities in India were looking forward to the allocation of centers used to serve ICT

demands of a rural region. For this an optimum model was to be prepared based on region's geographic location.

- **Predicting the dynamic pricing for online products:** An online retail store wanted to derive pricing model for different types of customers. Instead of providing common discounts to everyone, a dynamic pricing model was required to be developed.
- **Generation of Rules for Click pattern occurring for an advertisement agency:** An Advertisement Agency wanted to understand the click patterns on digital banners placed by them at relevant digital positions.
- **Recommending the products based on user profile for online retailer:** An Online retail company wanted to improve the basic recommendation system based on frequencies and top selling products. The company wanted to make the recommendation system more dynamic based on the transactions generated by users.
- **Finding out the cut off values for clinical parameters:** Medical diagnosis lab (under supervision of medical practitioners) wanted to derive cut off value for a specific type of medical test amongst the patients so that cross verification of the results can be done through other parameters too, at a lower cost which can benefit patients.

RESEARCH ASSOCIATE, 07/2011 to 12/2012

INauctus, India

Worked on research projects in field of Analytics, Information Systems and Data Science.

- Worked on data cleaning and transformations for the usage by senior data scientists.
- Worked on developing reporting tools in excel for usage by organizational management for decision making and tracking.

SOFTWARE DEVELOPER INTERN, 1/2011 to 05/2011

Software Engineering Lab, Samsung – Noida, India

Worked in the Research & Development department of Samsung Mobility division.

- Worked on the specifications related to Bluetooth connectivity in low cost mobile phones by Samsung in India.

INDEPENDENT DATA SCIENCE TRAINING & GUIDANCE, 2015 to Present

Provided training on various case studies and concepts related to Data Science to students and working professionals. Also conducted seminars and workshops in various post-graduate colleges and universities. Some of the topics covered are as follows.

- Data Science for Business
- Research Methodology, Research Process and Scientific Writing
- Quality Assessment of datasets for advanced analytics
- Machine Learning & Data Mining using R
- Recommender Systems for Online Retail Store
- Click through rate predictions for Online Ads
- Dynamic Pricing Model for online retail stores

Conducted mentoring sessions for various data science professionals for CAP exam through Skype and Face-to-face sessions. Most of the candidates were experienced professionals from reputed organizations like Deloitte, Cisco, Oracle, American Express, JP Morgan Chase & Co, Wells Fargo, Capgemini, Bank Mandiri, Accenture, Dubai Tourism, Cyient, IBM, KPMG, Samsung, Verizon, Cognizant and the likes. Sessions included information related to CAP certification exam by INFORMS and technical knowledge on Analytics Project Lifecycle.

PROJECT SUPERVISION

AI AND ML BASED RESUME MATCHING WITH JOB DESCRIPTION IN HR INDUSTRY, 2019

Supervised post-graduate students on using data from open job portals to develop an AI-ML based algorithm for matching Resume with Job Description. This will help the HR agencies and departments of various organizations in reducing time and efforts for resume shortlisting.

DATA QUALITY ASSESSMENT TOOL (DQAT), 2018

Supervised post-graduate student on using Open Government Data Platform to create a Data Quality Assessment Tool for measuring the statistical health of the various datasets. Various factors considered were consistency, missing values, clarity, normality, scalability, etc. This will be helpful for researchers and industry practitioners in reducing cost and time for data analysis.

AWARDS & RECOGNITIONS

- Best Poster Award in *Young Scientist Conclave, India International Science Festival (IISF)-2016* organizes by Ministry of Science & Technology (Government of India), Vijnana Bharati, ICAR, & CSIR-National Physics Lab.
- CAP Ambassador – Asia Region by INFORMS, USA
- Recognition for Good Performance as Consultant from the consulting organization.

PROFESSIONAL PROFILE LINKS

LinkedIn Profile: <https://www.linkedin.com/in/rajan-gupta-phd-cap-gstat-49376aa7/>

SCOPUS Profile: <https://www.scopus.com/authid/detail.uri?authorId=55574211294>

DBLP Profile: <https://dblp.uni-trier.de/pers/hd/g/Gupta:Rajan>

Google Scholar Profile: <https://goo.gl/srjSFT>

ORCID: <https://orcid.org/0000-0002-9851-4047>

YouTube Channel: <https://www.youtube.com/channel/UCsef4ztHhUMVbCtQDSkxgPA>

RESEARCH AREAS

Exposure to Research Areas: Public Information Systems, E-Governance, Public Policy, Analytics, Data Science, Artificial Intelligence, Data Mining, Biostatistics, Marketing Management, Cryptography, Image Processing, Multimedia processing