

AYUSH SHARMA

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EDUCATION

RAMANUJAN COLLEGE, UNIVERSITY OF DELHI

Nov 2021 – June 2024

Bachelor of Science (Honours) in Statistics, Minor in Computer Science | GPA: 7.65/10

ROYAL OAK INTERNATIONAL SCHOOL GURUGRAM, HARYANA, INDIA

May 2008 – July 2021

Senior Secondary (Physics, Chemistry Biology & Mathematics): 92.3% / Secondary: 93.8%

RESEARCH

DISSERTATION | SUPERVISOR: Dr. Abhishek Sheoran, Professor, University of Delhi

Principal Component Analysis and Time Series Forecasting of Groundwater Contamination in North India

- **Analyzed 22 ions** in North India's groundwater data, by summarising approx. **90000 rows** of data to nearly **150 rows** by **pivot tables** and plotting Haryana & Rajasthan's **Highest (0.3460 and 0.3194)** and Himachal Pradesh and J&K's **Least (0.0894 and 0.1120)** Contaminations.
- Utilized **Python** to carry out **Principal Component Analysis (PCA)** reducing **22 ions** to **4 principal components** explaining **71.02% of the variance** and **Principal Component Regression (PCR)** to enhance Predictive capabilities.
- Carried out **Time Series Analysis** using **Python, R & SPSS** transforming **non-stationary data to stationary** and further analysing their **ACF & PACF for MA and AR Orders**.
- Forecasted Stationary Data using **ARIMA & SARIMA Models** and further validated using **MAE, RMSPE, AIC, and BIC** metrics.

INDEPENDENT RESEARCHER | SUPERVISOR: Dr. Renu Garg, Assistant Professor, University of Delhi

IN PROGRESS | Impact of Modernization on Infant Mortality Rate in Delhi and Nearby States

- **Designed and conducted a survey** obtaining **Qualitative data** from **300+** participants across Delhi and NCR Region and **Quantitative Data** from Government and Hospital official Reports.
- Utilised **Python, R & SPSS** to carry out **Multiple Linear Regression** to establish and show relationships between **Infant Mortality Rate, Air Quality Index and Prenatal Care** in Delhi.

SURVIVAL ANALYSIS OF BLOOD CLOT HOSPITAL ADMISSIONS POST-VACCINATION: EXAMINING AGE, COMORBIDITY, AND CENSORING STATUS

- Analyzed **2,400 hospital admissions** for blood clot incidence within **28 days** post-vaccination to show increased risk by comorbidities **19x (p=0.0371)**; patients over **50 had 2.4x higher risk**.
- Used **Python and R** for **Kaplan-Meier estimations and Cox models**; found vaccinated individuals had higher clot risk **within 15 days**; Provided insights for healthcare providers on monitoring high-risk groups post-vaccination.

POSITION OF RESPONSIBILITY

VICE PRESIDENT

June 2023 – Jun 2024

Shivranjani, The Music Society of Ramanujan College

- Conceptualized, ideated and managed to execute end-to-end project workflows planning to post production in **15+ projects** for the tenure under annual plan directing over **80 members, orchestrating 10+ events** and facilitating numerous workshops.
- Coordinated around **30+ performances** at major cultural events, including **"Ministry of Ayush, Government of India"** and **"Vasudhaiv Kutumbukam: A G20 Event"**.
- Collaborated with **5+ NGOs** such as **"GPF India," "Ishwar NGO," and "Rupantaran NGO"** and others promoting music and encouraging children from diverse backgrounds.
- Restructured and visualized the Society's vision by initiating **new hierarchies, team structures, collaborations, and new projects (including an intra-society music-making competition)**, establishing a platform for musical as well as professional growth.

MEDIA HEAD

Aug 2022 - Jun 2023

Shivranjani, The Music Society of Ramanujan College

- Initiated, prepared and maintained databases and documentation on **200+ members and Alums, 7+ Events, and 30+ performances** within the society since its inception in **2013**.
- **Increased club's Social Media visibility by 297%** through consistent research and regular content; understanding algorithms, and audience needs by collaborating and campaigning with **15+ organisations**.
- Publicized all the events and designed posters and brochures
- Proficient in **multimedia**, including photography, videography, graphic designing and editing, using Canva and Adobe.

EVENT COORDINATOR

Aug 2022 – May 2023

Encephal, The Statistics Society of Ramanujan College

- Successfully executed **5+ events**, including the flagship events **"Ecstatica" and "Stratum,"** boosting engagement and attendance.
- Documented outcomes, ensuring continuous improvement for future initiatives.

SKILLS

- **TECHNICAL SKILLS:** Data Science | Python | R | IBM SPSS | Microsoft PowerBI | Data Visualization | Statistical Analysis | MySQL | C | HTML | Microsoft: Office
- **CORE SKILLS:** Research | Project Management | Strategic Planning | Leadership | Problem Solving | Critical Thinking | Marketing | Communication | Documentation

- **CREATIVE SKILLS:** Canva | Graphic Designing | Video Editing | Photography | Creative Writing | Post Production

VOLUNTEERING AND EXTRACURRICULARS

- ***Volunteering Experience:*** Organised and coordinated **10+ Cultural Events** and oversaw **5+ Technical Workshops**. Actively participated in **20+ Competitions**.
- ***Personal Interests:*** Passionate about Music, Photography, Avid Book Reader, and an enthusiastic Traveler