



## Amit Raj

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### ABOUT ME

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Enthusiastic and detail-oriented data science student with a strong foundation in statistics, machine learning, and data analysis. Eager to apply my knowledge to real-world problems and collaborate on impactful projects in tech, healthcare, finance, or any data-driven industry.

### WORK EXPERIENCE

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#### **HSE University - Laboratory of Artificial Intelligence Methods for Cognitive Sciences – Moscow, Russia**

City: Moscow | Country: Russia

##### **Research Intern**

[ 19/02/2025 – Current ]

- Conduct experiments using Machine Learning tools to gather and validate data.
- Analyze experimental data using statistical modelling and machine learning to derive actionable insights
- Assisting in 2 ongoing research projects, contributing to literature reviews and methodology development.
- Collaborate with my lab colleague in document findings and prepare reports for peer-reviewed publications.

#### **R1 RCM – Gurugram, India**

City: Gurugram | Country: India

##### **Financial Analyst**

[ 23/03/2023 – 10/05/2024 ]

- Analysed and processed medical claims for reimbursement, ensuring 100% accuracy and compliance with U.S. healthcare regulations
- Investigated and resolved billing discrepancies between healthcare providers and insurers
- Collaborate with cross-functional teams to address complex billing issues and optimize revenue cycle management

#### **UBER – Gurugram, India**

City: Gurugram | Country: India

##### **Customer Support Advisor**

[ 17/06/2021 – 19/01/2023 ]

- Resolve customer inquiries via chat and email, addressing account issues, payment disputes, and ride-related concerns
- Assisted and onboarded new colleagues, providing training on support processes and tools.
- Led a team of 20 support agents, ensuring a high-quality service offering to customers
- Maintained a high customer satisfaction rating throughout my period

EDUCATION AND TRAINING

Master Degree | Data Science

National Research University - Higher School of Economics [ 01/09/2024 – Current ]

City: Moscow | Country: Russia | Website: <https://www.hse.ru/>

Bachelor of Managment Studies

Aryabhata College, University of Delhi [ 02/06/2018 – 01/06/2021 ]

City: New Delhi | Country: India | Website: <https://aryabhatacollege.ac.in/>

LANGUAGE SKILLS

Mother tongue(s): Hindi

Other language(s):

English

LISTENING C1 READING C2 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Russian

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PROJECTS

Tabular Data Question-Answering Chatbot

- Developed a web-based chatbot system designed to demonstrate Question Answering over Tabular Data (QTAB) capabilities.
- Created a restaurant-specific chatbot capable of answering user queries related to menus, products, reservations, and orders.
- Implemented natural language understanding (NLU) to interpret user queries and retrieve accurate information from structured data tables.
- Addressed key challenges in information retrieval and semantic understanding of everyday datasets.
- Integrated AI-driven conversational logic with modern web development technologies to deliver an interactive, user-friendly interface.
- Showcased practical applications of AI in customer service automation, enhancing efficiency in restaurant operations.

Links: <https://github.com/amitraj8/restaurant-chatbot> | <https://amitraj8.github.io/restaurant-chatbot/>

Heart Disease Prediction using GAPSO-RF: A Hybrid Optimized Machine Learning Approach

- Extended a published research project on heart disease prediction using a hybrid optimization and machine learning approach
- Developed a GAPSO-RF model, integrating Genetic Algorithm (GA) and Particle Swarm Optimization (PSO) with Random Forest (RF)
- Applied multivariate statistical analysis to select significant features for initializing the population
- Implemented a discriminant mutation strategy in GA for enhanced global search capabilities
- Used PSO for local search optimization, refining feature selection and improving model performance
- Trained and evaluated the model on the Cleveland and Statlog heart disease datasets

Link: <https://github.com/amitraj8?tab=repositories>

## Social Network Project: Ego Network

- Conducted descriptive analysis on an ego-centric social network
- Constructed a network where nodes represent friends/connections (excluding the ego)
- Represented relationships as directed (follower/following) or undirected (mutual friendships) edges
- Calculated centrality metrics: degree, betweenness, and closeness to identify influential nodes
- Computed clustering coefficient to measure community formation
- Analyzed reciprocity rate to compare mutual and one-sided connections

Link: <https://github.com/amitraj8?tab=repositories>

## Influence In Networks

- Analyzed the ia-crime-moreno dataset representing interactions in a criminal narcotics network
- Applied graph theory to uncover network structure and identify influential individuals
- Calculated key centrality measures (degree, betweenness, closeness, eigenvector) to rank actors by influence
- Conducted community detection to identify distinct criminal subgroups
- Visualized the network to highlight key patterns and central figures
- Assessed network resilience to evaluate how disruption of key nodes impacts the overall structure

Link: <https://github.com/amitraj8?tab=repositories>

## Neural-FCA-OSDA

- Worked on Neural-FCA-OSDAA, a comprehensive project integrating Neural Networks with Formal Concept Analysis (FCA) to enhance predictive modeling
- Developed a model to predict individual salary based on key features including location, gender, experience level, and education
- Applied Formal Concept Analysis to extract meaningful patterns and hierarchical relationships from the dataset
- Implemented and compared Neural Network and other machine learning models (e.g., Linear Regression, Decision Trees, Random Forest, XGBoost etc.) to evaluate prediction performance
- Gained hands-on experience in data preprocessing, feature engineering, model training, and evaluation using real-world data

Link: <https://github.com/amitraj8?tab=repositories>

## VOLUNTEERING

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[ 02/09/2025 – 08/09/2025 ]

### Moscow International Book Fair

- Served as part of the management and coordination team at the Indian Pavilion.
- Organised and managed events featuring Indian publishers and authors, ensuring smooth execution and audience engagement.
- Acted as a liaison between Indian and international publishers, authors, and visitors.
- Welcomed and guided international guests and visitors through the Indian Pavilion, providing information on exhibits and literary highlights.
- Assisted in coordinating schedules, meetings, and cultural programs, contributing to the overall success of the fair.

Link: <https://mibf.info/>

[ 05/07/2025 – 14/07/2025 ] Moscow

### **Bharat Utsav – Festival of India**

- Collaborated with the Embassy of India in Moscow to organise and manage a nine-day cultural celebration.
- Served as an event manager, overseeing planning, coordination, and on-site execution of multiple cultural programs.
- Organised and supervised diverse events, including *yoga sessions, traditional and contemporary dance performances* by Indian and Russian artists, theatrical plays, and musical performances.
- Coordinated with artists, embassy officials, and local partners to ensure smooth logistics and successful event flow.
- Managed guest engagement and audience experience, promoting cross-cultural understanding between India and Russia.

Link: <https://www.mos.ru/en/news/item/155858073/>

[ 16/12/2024 – 19/12/2024 ]

### **BRICS+ Blind Football Tournament**

- Assisted in tournament organization, helping with setup, scheduling, and on-ground coordination
- Provided logistical support to participating teams (equipment management, guiding players, etc.)
- Served as a match-day volunteer, addressing real-time needs of players and officials
- Ensured accessibility standards were maintained for visually impaired athletes
- Collaborated with 20+ volunteers to create an inclusive sporting environment

Link: <https://brics-russia2024.ru/en/news/v-moskve-proydet-pervyy-mezhdunarodnyy-turnir-briks-po-nezryachemu-futbolu/>