



# Hemant Banke

## M.STAT. (Master of Statistics)

Computational Statistics

Indian Statistical Institute

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### EDUCATION

- **Indian Statistical Institute, Kolkata - Master of Statistics** (2021-23)
  - o First Year Average score : 74.6% (Semester 1 : 75.4% ; Semester 2 : 73.8%)
- **Holkar Science College, Indore - B.Sc. in Statistics** (2018-21)
  - o Passed First Division with a cumulative Percentage : 79.79%
- **St. Joseph's School, Indore - Matriculation and +2 (CBSE Board)** (2018)
  - o Class 12th : 88.2% , Class 10th : 95%

### INTERNSHIP EXPERIENCE

- **Quality Analyst Intern / Software Development (ResearchInn Investment Advisor)** (July'19-Aug'19)
  - o Developed Dashboard to visualize company track-sheets. It helped Business Analysts to easily share performance of past stock recommendations with clients.
  - o Clients can quickly see the Accuracy, Total P/L, Maximum drawdown for any time period and service
  - o Used Chart.js, DataTables libraries and JavaScript, PHP languages

### TECHNICAL SKILLS & CERTIFICATIONS

- **Programming Languages:** R, Python, JavaScript
- **Software and Libraries:** Git, R Studio, Firebase, AWS (Beginner)
- **Relevant Courses:** Regression Techniques, Pattern Recognition, Stochastic Processes, Quantitative Finance, Linear Algebra and Linear Models, Multivariate Analysis, Statistical Inference

### PROJECTS

- **Usefulness of Ensemble Methods for creating Xg models** (Jul'22)
  - o Building and Comparing the performance of Expected Goals (xG) model created using Ensemble and Non-Ensemble methods. Performed Feature selection and engineering from StatsBomb data, Handled Class Imbalance using ROSE subsampling, used repeated cross validation to tune the hyperparameters.
  - o Comparing ensembles constructed using different weak learners (Logistic, Decision Trees) and different learning methods (Bagging, Boosting, Stacked Models). Created Random Forest, AdaBoost, XgBoost, LogitBoost and different stacked models. Implemented a predicted Xg heatmap for a pictorial comparison.
- **Regression Analysis of Diabetes data** (Dec'21)
  - o Studied dependence of Insulin in blood plasma on relative weight, fasting glucose level, random glucose level and steady state glucose level for Normal, Chemically Diabetic and Overt Diabetic patients.
  - o Handled Non normality, Multicollinearity, Influential Points, Non Linearity and used AIC for model selection.
- **Simulation Study on Markov Chains (In progress)**
  - o Simulated Discrete MC with random TPM and its variations (alternating TPM, noise) and estimated the TPM's and stationary distribution. Generalized to simulating any continuous time Birth-Death Process.
  - o Worked on Hidden Markov Model and estimated the hidden path using Viterbi and Forward Algorithm.

### POSITIONS OF RESPONSIBILITY

- **Team Leader | Inter-school Bal Vigyan Competition (St. Joseph's School)** (Dec'16, Dec'18)
  - o Won Best Project and Best Content Awards for projects in the Computer Science domain.

### ACHIEVEMENTS

- Secured All India Rank 39 in ISI MSTAT entrance exam (2021)
- Secured All India Rank 84 in IIT JAM (MS) entrance exam (2021)
- 4 Stars on the coding platform CodeChef
- Student Developer, Crio Launch 2020 at Crio.do (Jan'20-Apr'20)
- Selected for Final Round of Code-N-Counter 4.0 Hackathon organized by Nagarro in Gurgaon (2019)

### EXTRA-CURRICULAR ACTIVITIES

- Freelance Web Developer/Designer on freelancer.com platform (2019-2021)
- Working as Doubt Clearing Coach at Cheenta School of Statistics (2021)
- Participated in Virtual Stock Market Competition by E-Cell, IIT Bombay (2021)
- Attended Founders Garage Sessions by EnB (Entrepreneurship and Business) Club, IIT Bombay (2021)