Srimanta Ghosh

M.Sc. in Mathematics with Data Science (Pursuing)
Year of Passing: 2025
Email: gh.22srimanta@gmail.com

Mobile: +91-62911-18194
LinkedIn: srimanta-ghosh
Github: gr4phi7E

Summary

As a data science student, I excel in Machine Learning, Statistical Inference, and Probability Theory. I'm eager to leverage my analytical skills and statistical expertise to make impactful decisions based on data.

Skills

- **Machine Learning**: Regression, Classification, Regularization, Model Selection & Assessment, Resampling Techniques, Tree Based Methods, Support Vector Machines, Cluster Analysis, Principal Components Analysis, Independent Components Analysis, Factor Analysis
- **Deep Learning**: Backpropagation, Regularization, Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN), Long Short-Term Memory (LSTM), Generative Adversarial Networks (GAN), Adaptive Learning Rate Optimization
- **Reinforcement Learning**: Markov Reward Process, Markov Decision Process, Policy Evaluation & Improvement
- **Statistics**: Sampling techniques, Linear Models, Estimation, Hypothesis Testing, Time Series Analysis, Survival Analysis
- **Quantitative Finance**: Efficient Portfolio Theory, Capital Asset Pricing Model, Option Pricing
- **Mathematics**: Optimization Techniques, Linear Algebra, Real Analysis
- **Languages**: Python, R

Key Projects

- [**M.Sc. Thesis**] **Understanding Risk Factors for Mortality Among Older Individuals**: **(2025)**
  - **Guide:** Dr. Rahul Ghosal, Arnold School of Public Health, University of South Carolina, Columbia, SC.
  - Developed a mortality risk prediction framework using Cox Proportional Hazards, Random Survival Forests (RSF), and Deep Survival models on NHANES(2011-14) dataset.
  - Identified key mortality risk factors, including age, mobility limitations, heart failure, and physical activity patterns.
- [**Summer Project**] **On association between surgical hypothermia and surgical site infections**: **(2024)**
  - **Guide:** Dr. Atanu Kr. Ghosh, Dept. of Statistics, Presidency University, Kolkata
  - Built an effect size Logistic regression model to calculate the change in odds of getting serious infection for varying surgical core temperature adjusting for potential confounders.
  - Built survival models to calculate the risk of staying in hospital after surgery.
- [**Academic Project**] **Infected Leaf Identification using Support Vector Machine(SVM)**: **(2023)**
  - **Guide:** Kartik Sahoo, Guest Faculty, IMA, Bhubaneswar
  - Developed a Python-based Support Vector Machine (SVM) model for automatic identification of leaf infections, utilizing a curated dataset of healthy and infected leaf images.
  - Trained and optimized the SVM model with hyperparameter tuning (C = 1000, gamma = 0.0001, kernel = RBF), achieving 84% accuracy and evaluating performance through ROC analysis.

Summer Internship

- **Presidency University** — Kolkata
  Project Intern (Statistics) — *May 2024 - June 2024*
  - **Learning Phase**: Learned about applications of Linear and Generalised Linear Models in Healthcare Setup.
  - **Implementation Phase**: Worked on a project that involves analyzing the Association between Surgical Hypothermia and Surgical Site Infections, allowing me to gain valuable insights into statistical modeling in a healthcare setting.

Education

- **Institute of Mathematics and Applications, Bhubaneswar** — Odisha, India
  M.Sc. in Mathematics with Data Science; Percentage: Percentage: 62.55% — *July 2023 - Present*
- **Ramakrishna Mission Residential College, Narendrapur** — West Bengal, India
  B.Sc. in Statistics (Hons.); Percentage: 64.125% — *July 2015 - June 2018*
- **Uttarpara Government High School, Hooghly** — West Bengal, India
  Higher Secondary (Stream: Science); Percentage: 83.8% — *2015*
- **Uttarpara Government High School, Hooghly** — West Bengal, India
  Secondary; Percentage: 85.57% — *2013*

Certificates

- **Winter School Course on Deep Learning, Generative AI, LLM (WSDL 2024)** — CSI Kolkata Chapter
  A 3 month course where I learned basic ideas of ML, DL, RL with same hands ons. — *March 2024 - May 2024*