

# Bhagyashree Nayak

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🌐 [github.com/bhagyn](https://github.com/bhagyn)

## Profile

Experienced professional in the area of Risk Analytics and Machine Learning (ML) with 7 years of experience at global organizations. Skilled in scenario design, model development and validation of scenario, credit risk and PPNR models. Efficient in building interactive web applications for key projects, team branding and engagement. Managed cross-functional teams to successfully deliver presentations and business solutions to C-level stakeholders. Adept at leveraging Artificial Intelligence (AI)/ML algorithms and tools to achieve business goals. Authored a white paper titled "Getting fit for TRIM" discussing potential impact of ECB's TRIM guidelines. Seeking new opportunities that leverage my current skills while providing engaging roles in AI/ML and other domains of risk management.

## Areas of Expertise

Economics - Econometrics - Deep Learning (AI) - Machine Learning - Data Analytics - Interactive Web Applications (RShiny, PowerBI) - Cloud Computing - Regulations [SR 11-7, SR 15-18, BASEL - I, II, III, IV, IFRS (IAS 19), TRIM]

## Professional Experience

**Associate, Model Development,** [Morgan Stanley](#) **Mumbai, India** 2019 - 2023

- Scenario Design - Economic narrative formation and design of exogenous paths for Regulatory CCAR, internal FMS (Firm Macro Scenarios) and Adhoc (Carbon Tax, US Debt Ceiling) scenarios.
- Model Development, Forecast Generation and Monitoring – Regulatory CCAR and internal FMS scenarios - Engagement in end-to-end process along with closure of MRM (Model Risk Management) and IAD (Internal Audit) limitations (e.g. Bias in estimation of AR models, Rank ordering of Japanese treasury yields) - Benchmark model exploration using ML algorithms.
- Macro Monitor - Led and managed a team in production of presentation and publication of report, effectively communicating key insights and performance metrics to Firm-wide stakeholders.
- Crypto Assets - Developed and published Firm-wide monthly crypto report in collaboration with senior stakeholders of the Firm.
- Solar Panel development using R Shiny focused on assessing impact of potential climate regulations on Firm's counterparty portfolio exposure using Carbon Intensity and Financed Emission indices.

**Senior Quantitative Analyst, Model Validation,** [CRISIL](#) **Mumbai, India** 2018 - 2019

- Credit - End-to-end validation of client collateral haircuts capturing illiquidity, concentration and currency mismatch risks. Review of add-ons methodology for calculating margin requirements of clients trading in OTC derivatives.
- PPNR - Validation of pension risk stress loss model calculating OCI impact under a macroeconomic scenario in compliance with the IFRS (IAS 19) accounting rules.
- Other - Annual review of medium-term Inflation and US CLO Refi/Reset Probabilities models covering Vector Auto-regression (VAR), Survival Analysis and Cox-Regression methodologies.

**Quantitative Analyst, Model Validation,** [CRISIL](#) **Mumbai, India** 2016 - 2018

- End-to-end validation of scenario and credit risk models covering techniques such as error-correction mechanism (ECM) and logistic regression.
- Authored a white paper titled [Getting Fit for TRIM](#) discussing potential impact of ECB's TRIM guidelines on banks, under CRISIL Centre of Excellence.

## Education

- **MSc Economics** [Indira Gandhi Institute of Development Research](#) **Mumbai, India** 2014 - 2016
- **BSc Economics (Hons.)** [Presidency College](#) **Kolkata, India** 2010 - 2013
- **XII Standard** [The Frank Anthony Public School](#) **Kolkata, India** 2009 - 2010
- **X Standard** [St. Stephen's School](#) **Kolkata, India** 2007 - 2008

## Skills

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- **Programming:** R, Python, SQL
- **AI:** Machine Learning, Deep Learning: Pytorch
- **Data:** R: R Shiny, Python: Plotly, Matplotlib, Seaborn, PowerBI
- **Platfoms:** AWS EC2, GitHub
- **Documentation:** Microsoft Word, Latex
- **Office Suites and Other:** MS Office, Teams, OneDrive
- **Soft Skills:** Analytical Thinking, Problem-Solving, Effective Communication, Planning, Accountability, Adaptability, Teamwork, Good Presentation

## Awards and Extracurricular

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- **FRM Talent Showcase Team Presenter (Theme: Fantasy)** *Morgan Stanley* 2023
- **Execution Excellence Award** *CRISIL* 2018
- **CLAP Award** *CRISIL* 2018
- **1st Runner Up, CSR** *CRISIL Foundation* 2017
- **Execution Excellence Award** *CRISIL* 2017
- **CLAP Award** *CRISIL* 2017

## Languages

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|---------------------------------|-------------------------------|
| • <b>Bengali</b> [Native]       | • <b>Marathi</b> [Basic] - A1 |
| • <b>English</b> [Professional] |                               |
| • <b>Hindi</b> [Professional]   | • <b>Russian</b> [Basic] - A1 |