

# SAMAR HOLKAR

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## EDUCATION

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- Expected 12/23 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute of Mathematical Sciences**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** object oriented programming in finance, portfolio optimization, derivatives pricing, econometrics, machine learning
- 08/13 - 05/17 **INDIAN INSTITUTE OF TECHNOLOGY ROORKEE** Roorkee, India  
**B.Tech. in Computer Science and Engineering (awarded 09/17)**
- **Coursework:** probability (basics), linear algebra, machine learning, multi-variable calculus and differential equations
  - **Honors/Awards:** MCM (Merit-Cum-Means) Scholarship for Exemplary Performance (99.9 percentile) in All India IIT Joint Entrance Examination

## EXPERIENCE

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- 04/19 - 06/22 **GOLDMAN SACHS** Bangalore, India  
**Associate - Quantitative Strategist**
- Modeled initial margin for U.S. equity derivatives flow desk's portfolio, resulting in 14% reduction in overall margin postings
  - Calibrated 5-day 99.7% GAP risk calculation for option hedges to offer clients optimal margins on their portfolios
  - Calculated credit risk benchmarks for U.S. equity derivatives clients trading single stock portfolios using different strategies
  - Structured corporate trade models to optimize collateral and margin constraints for clients
  - Optimized CVA capital risk for clients, resulting in reduction in attributed equity (capital constraint) by about 4%
- 06/17 - 04/19 **PAYTM** New Delhi, India  
(E-commerce and utility startup)  
**Software Engineer**
- Built language translation engine that accommodated 11 languages, enhancing user experience through interactive design flow
  - Created rule-based engine that standardized product names, streamlining operational design, as well as cutting expenses and time-intensive manual operations

## PROJECTS

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- 08/16 - 02/17 **INDIAN INSTITUTE OF TECHNOLOGY ROORKEE** Roorkee, India  
**Text-Image Synthesis with Uni-Skip Vectors (Python, Deep Learning)**
- Used natural language understanding; designed model that learned image generation from text data with 1M-word vocabulary, producing high-level generic sentence representations
  - Improved model by employing distributed text encoder conditioned with generative adversarial modeling to produce visual representations
- 04/16 - 05/16 **INDIAN INSTITUTE OF TECHNOLOGY ROORKEE** Roorkee, India  
**Object Identification from Visual Data (Python)**
- Followed hypothesis to optimize hyperparameters such as receptive fields and feature maps to improve invariance and filtering in convolutional neural net architecture

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** C/C++, Python, Javascript, Slang

**Languages:** English (fluent), Hindi (native)

**Certifications (Coursera):** [Financial Markets](#), [Introduction of Financial Engineering and Risk Management](#), [Statistics with Python](#), [Numerical Methods](#)

**Interests:** Programming (ranked top-4th percentile in ACM ICPC), Public Speaking (President of GS Toastmasters)