Vikas Kumar Jha

Lead Data Scientist @ Societe Generale GSC
www.linkedin.com/in/vikaskjha

Ph:+91-7506748474
email: vikasjhanitk@gmail.com
GitHub: https://github.com/jha-vikas

SKILLSET SUMMARY

- 9 years of total quantitative work experience. 5 years of experience in Analytics, Data Science and Machine Learning in Banking and Financial Services Domain with exposure to Energy and Auto sector
- Skilled in Machine Learning, Statistics, Coding, Management Consulting, Risk-management, Fraud Detection, Team Management and Delivery Strategy
- Able leadership and organizational skills in managing and mentoring teams in the domain and technical fronts
- Structured thought process to breakdown problem and approach it from first principles. Strong communication, negotiation and dispute resolution skills

TECHNICAL EXPERTISE

- Statistical tools & languages: Python (NumPy, Pandas, Scikit-learn, PyTorch, Keras), R, SQL, MatLab, Stata, Julia
- Modelling Techniques: Supervised (Regression, Classification, Decision Trees, Ensemble models etc.), Semi-supervised and Unsupervised (Principle Component Analysis, Multidimensional Scaling, Clustering etc.), Deep-Learning, Factor Analysis etc.

PROFESSIONAL EXPERIENCE

Lead Data Scientist — **Societe Generale Global Solution Center / Apr 2018 – current**

- Developed **client analysis tool** in Python in cooperation with the prime brokerage services team, providing the **trading behavioural insights of clients, and market triggers** associated with changes in individual behaviour. The tool enabled **50% reduction in engagement time** for the prime brokerage services team.
- Implemented **multidimensional maps** based on custom similarity metrics to provide the **general direction of clients' trades** on macro scale. Used for identifying changes in **correlation structure, anomalies and latent variables** providing key inputs for strategic decisions.
- Conceptualized development of **reusable frameworks** for repeated tasks based on open-source tools.
- **Optimized existing algorithms** and scripts to reduce time and space complexity. **Mentored junior Data scientists** on approaching open ended problems and writing production level codes in python.
- Leading initiative for minimizing Initial Margin Requirements (IMR) via portfolio optimization. Developed a simplified computational graph utilizing vectorising & broadcasting to generate all possible combinations of portfolios in terms of linear transformations **saving time required by 95%**. Implemented the pricing calculations as **custom neural network** from scratch to optimize input, with initial results showing **saving of $3-4 million** in total IMR.
- Led a team of analysts to create an **alert generation framework to identify anomalies** in clients' trading from the view point of volume and frequency of trade executed on the company platform. The tool is helping the relationship managers to reach out to clients on proactive basis instead of erstwhile reactive basis catering needs of clients better.

Senior Software Engineer Analyst — **Optum Global Solutions (UnitedHealth Group) / Dec 2017 – Mar 2018**

- Implemented on Nelson-Rules based fraud detection models to identify fake medical claims. Coded and verified the functioning with the Business side.

Analyst (Advanced Analytics) — **ICICI Bank Limited / Jun 2016 – Nov 2017**

- Created **customer segmentation model** scored customers based on redemption propensity and the extent of redemption based on demographic & transaction data, enabling identification of **top 20% of customers accounting for 50% of redemption**.
- Identified **customers' family clusters** through text analysis using similarity between the demographic characteristics, **reducing the turnaround time** for KYC fulfilment, and helped in targeting internal fraud cases.
- Applied **time series models** to predict cash movement between branches post demonetization, predicting cost within the constraints of cash transportation rates, helping to choose the cash-transportation slab plan, **reducing net transportation cost by 50% in first month & by 20% in second month** of implementation.

Design Engineer — **Engineers India Limited / July 2009 – July 2013**

- **Designed pressure equipments (ASME Section VIII)** and **heat exchangers** under constraints of internal & external pressure, thermal conditions & material strength, to be installed in refineries, fertilizer plants & nuclear power plants.

EDUCATION

- **M.Sc. Economics** (2014-16) from **IGIDR (RBI)**, Mumbai with CGPA: **3.28/4.00**
  Focus Areas: Econometrics and Statistics, Time-Series, Financial Markets, Microeconomics, Linear Algebra**,** Probability
- **B.Tech.** Mechanical Engineering (2005-09) from **NIT Surathkal** Karnataka (2005-09) with CGPA: **8.13/10**
- **90.6%**, CBSE School Topper in XII (2005) and **96%**, CBSE Rank 13 & School Topper in X (2003)

CERTIFICATIONS, INTERNSHIPS & OTHER PROJECTS

- Cleared **Financial Risk Manager** (FRM) Part 1.
- Interned at **Reserve Bank of India** (Mumbai) from May to June 2015. Undertook exploration of **Exuberances (Bubbles) in Indian Stock Market**, employing Generalized Supremum Augmented Dickey Fuller **(GSADF)** test with date-stamping technique.
- Implemented **Nested symmetric & asymmetric GARCH (Generalized Autoregressive Conditional Heteroscedasticity) time series models** as part of project in M.Sc. in MatLab.
- **Founding Member** of **NIT Surathkal Racing Club**. Designed suspension & simulated in MatLab under constant and cyclical loads. Raced at **Baja-SAE** India 2007 (Overall runner-up) & 2009.
- **NTSE** Scholar & multiple Olympiads winner.