Saumya Gaurang Shah

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Education

Carnegie Mellon University | School of Computer Science   Pittsburgh, PA
Master of Science in Machine Learning   Dec 2022
Ongoing Coursework: ML with Large Datasets, Introduction to ML (PhD), Probability and Mathematical Statistics

Indian Institute of Technology Kanpur   Kanpur, India
Bachelor of Technology - Electrical Engineering | GPA: 9.6/10   Oct 2020
Minors: Machine Learning and Applications, Computer Systems
Honors: Academic Excellence Award (2016-2018), awarded to top 10% students
Coursework: Introduction to Programming, Data Structures and Algorithms, Database Systems, Machine Learning, Visual
Recognition, Probabilistic Modeling and Inference, Computer Organization, Linear Algebra, Probability and Statistics

Ecole Polytechnique Federale de Lausanne   Lausanne, Switzerland
Semester Exchange - Computer Science   Feb 2020
Coursework: Natural Language Processing, Convex Optimization, Algorithms-II

Skills

Languages: C/C++, Python, SQL, Shell scripting(Bash), MATLAB, GNU Octave
Libraries and Tools: PyTorch, TensorFlow, Keras, PySpark, Databricks, NumPy, Pandas, SciPy, scikit-learn, Git, LaTeX

Experience

Kivi Capital   Gurugram, India
Quantitative Researcher   Aug 2020 - Mar 2021
- Designed 20 strategies for trading equity futures satisfying Sharpe Ratio and Return over Max. Drawdown thresholds
- Created a platform in Python for real-time margin computation for equity derivatives on the National Stock Exchange

Computer-Human Interaction in Learning and Instruction (CHILI) Lab, EPFL   Lausanne, Switzerland
Research Intern   May 2019 - Jul 2019
- Implemented 60 new features in Python for diagnosing dysgraphia using time series writing data from a tablet
- Improved interpretability of diagnosis and increased prediction accuracies by about 4-5% on minority class alone

Auquan   Bengaluru, India (Remote)
Intern   Feb 2018 - May 2018
- Designed an intra-day mean reversion strategy in Python for a partner firm using Hurst values and ARIMA models
- Backtested and optimized the data-driven quantitative trading strategy to give >30% Return on Capital

Projects

Analysing Relationship Between Writing and Drawing Skills   Lausanne, Switzerland
Semester Research Project, CHILI Lab, EPFL   Sep 2019 - Jan 2020
- Compared results across grades to analyse transferability of handwriting skills acquired during writing to drawing,
  subsequently helping in diagnosis of dysgraphia for kids below three years of age who have not yet learned to write
- Utilized data splitting to increase minority class prediction accuracy by 20% using only drawing strokes' data

cleanAI: Smart and Sustainable Electricity Grids   Hyderabad, India (Remote)
Deloitte TechnoUtsav 2.0, Deloitte US India   Feb 2019 - May 2019
- Led a team of three to victory at Deloitte TechnoUtsav 2.0, a national level-tech competition with 13,000+ students
  across 100+ engineering campuses; received a cash award of INR 500,000 and a Pre Placement Offer from Deloitte
- Built a sustainable ML model using Python data science libraries for predicting solar and wind power generation from
  weather forecast data, reducing a smart grid's expenditure by 60% and increasing electricity output by at least 20%
- Presented our prototype at Deloitte US India Analytics Summit 2019 at Hyderabad, among 25 novel AI ideas (tweet)

Model Zoo for Unsupervised Transfer Learning   Kanpur, India
Course Project for Visual Recognition (CS783), IIT Kanpur   Feb 2019 - Apr 2019
- Developed a model zoo of unsupervised learning algorithms on a vehicle dataset from surveillance cameras at IITK
- Implemented several unsupervised machine learning techniques for various tasks including Object Detection, Object
  Classification, Image Segmentation, Object Tracking, Pose Detection and Super Resolution (presentation link)

Awards and Achievements

- Summer@EPFL 2019 Fellowship: Awarded to 1% students among 1200+ applicants for pursuing a summer internship
- Open source contribution: Selected for JSoC'19; implemented graph, time series models using Bayesian inference (blog)
- Top 1% (amongst 1,200,000 candidates) in JEE Main '16; top 4% (amongst 150,000 candidates) in JEE Advanced '16