Saumya Shah

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EDUCATION

IIT KANPUR
B.Tech, Electrical Engineering
Minors: Machine Learning and
Applications, Computer Systems
2016-2020 | Kanpur, India
CPI: 9.6/10

EPFL
Semester Exchange, Computer Science
Sep'19-Feb'20 | Lausanne, Switzerland

COURSEWORK

COMPUTER SCIENCE
Introduction to Programming
Data Structures and Algorithms
Algorithms-II
Database Systems
Computer Organization
Operating Systems (*online, ongoing*)
Machine Learning
Visual Recognition
Natural Language Processing
Probabilistic Modeling and Inference

MATHEMATICS
Real Analysis
Linear Algebra
Probability and Statistics
Convex Optimization

SKILLS

LANGUAGES
Proficient: C++ • Python • Julia
Familiar: Java • SQL • Bash •
MATLAB/Octave • Verilog • MIPS

LIBRARIES
Pytorch • Keras • TensorFlow • NumPy •
Pandas • Scipy • Scikit-Learn

OTHER
Git • TravisCI • LaTeX • ROS

EXPERIENCE

KIVI CAPITAL | Quantitative Researcher
Aug '20 - Mar '21 | Gurugram, India
Developing Trading Strategies and Analyzing Risk for Trading in the Capital Markets
- Developed strategies for trading futures and improved existing strategies
- Developed a platform for real time margin computation for equity derivatives
- Analyzed the risk vs reward in deploying trading strategies

COMPUTER-HUMAN INTERACTION IN LEARNING AND INSTRUCTION LAB, EPFL | Summer@EPFL Research Intern | 📄
May '19 - July '19 | Prof. Pierre Dillenbourg | Lausanne, Switzerland
Diagnosing Dysgraphia Using Handwriting Data from a Consumer Tablet
- Implemented an additional 60 new features for our time series data based on position, time, pressure, tilt, age, gender and laterality of the strokes
- Improved interpretability of the diagnosis and prediction accuracies by about 4-5% on the minority class using the new features and oversampling techniques

AUQUAN | Data Science Intern | 🐱
Feb '18 - May '18 | ML Platform for Financial Services | Bengaluru, India
Predicting Stock Prices to Develop Trading Strategies on the National Stock Exchange
- Developed an intra-day mean reversion strategy for a partner firm using Hurst values and Autoregressive Integrated Moving Average (ARIMA) models
- Designed, back-tested and optimized this data-driven quantitative trading strategy using Python to give greater than 30% return on capital (RoC)

PROJECTS

ANALYSING RELATIONSHIP BETWEEN WRITING AND DRAWING SKILLS | Semester Research Project | 📄
Sep '19 – Jan '20 | Prof. Pierre Dillenbourg | CHILI Lab, EPFL, Switzerland
- Implemented data splitting techniques to obtain better performance for predicting dysgraphia using time series data obtained from drawing samples
- Compared predictions and correlations across grades to analyse the transferability of handwriting skills from writing to drawing

JULIA SEASONS OF CONTRIBUTIONS | Student Developer | 🐱 Ⓜ
May '19 – Aug'19 | Open Source Contribution | Model Zoo for Turing.jl
- Implemented graph and time series models in Julia using Bayesian inference with the probabilistic programming language (PPL) Turing (Blog link)

MODEL ZOO FOR UNSUPERVISED TRANSFER LEARNING | 📄 ▶
Feb'19 – Apr'19 | Course Project (CS783), Prof. Vinay P. Namboodiri | IITK, India
- Developed a model zoo of unsupervised learning algorithms
- Implemented unsupervised Object Detection, Object Classification, Image Segmentation, Object Tracking, Pose Detection and Super Resolution

AWARDS & ACHIEVEMENTS
- Received the Academic Excellence Award for 3 consecutive years (2016-2018), awarded to Top 10% students at IITK
- Won Deloitte TechnoUtsav 2.0 (2019) (national level tech competition with 9500+ participants) along with 2 team members - Cash Award of INR 500,000
- Summer@EPFL 2019 Fellowship: Awarded to about 1% students among 1200+ applicants for pursuing a three-month fellowship at EPFL, Switzerland
- Ranked in National Top 1% (amongst 1,200,000 candidates) in JEE Main '16
- Ranked in National Top 4% (amongst 150,000 candidates) in JEE Advanced '16