

Saumya Shah

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EDUCATION

IIT KANPUR

B.TECH, ELECTRICAL ENGINEERING
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*
(completed at EPFL)

SKILLS

LANGUAGES

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

FRAMEWORKS

Pytorch • Keras • TensorFlow • ROS

DATA SCIENCE LIBRARIES

NumPy • Pandas • Scipy • Scikit-Learn

OTHER

Git • TravisCI • \LaTeX • Arduino

MISCELLANEOUS

Member of IIT-Kanpur Table Tennis team;
awarded Player of Summer Camp 2017
for exceptional performance in Table
Tennis

EXPERIENCE

KIVI CAPITAL | QUANTITATIVE RESEARCHER

Aug '20 - Present | Gurugram, India
Developing Algorithms and Analyzing Risk for Trading in the Capital Markets

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 for the NSE stock market index

- 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 various graph and time series models in Julia using Bayesian inference with the probabilistic programming language (PPL) Turing
- Blog posts describing the work done in detail can be found here

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