Ishan Srivastava

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Education

M.Sc. in Scientific Computing and Data Analysis • First Class Honours (**71**%) *Sep 2021 - Sep 2022*
University of Durham, U.K.

Bachelors in Theoretical Physics • First Class Honours (**80%**) *Oct 2015 - Jul 2019*
University of Durham, U.K.

Experience

Intellithink Industrial IoT *Jan 2023 - Present*
Data Scientist *Bengaluru, India*

- Enhanced Product Efficiency: Integrated machine learning models, resulting in up to 20% cost savings for clients and a 10% improvement in heavy machinery efficiency through predictive maintenance.
- Real-time Data Optimization: Achieved up to 25% cost savings by implementing dockerized serverless inference for real-time IoT streaming data.
- Rapid Model Deployment: Reduced time to model deployment by up to 50% by implementing CI/CD pipelines.
- Scalable Data Processing: Drastically reduced ML model training time by over 100% by leveraging Apache Spark and SQL for terabyte-scale ETL operations on IoT sensor data.
- Improved Inference Speed: Accelerated inference time by up to 70% through parallel processing of feature extraction

Intellithink Industrial IoT *Sep 2022 – Dec 2022*
Data Scientist - Intern *Bengaluru, India*

- Enhanced Anomaly Detection in Sensor Time Series: Enhanced anomaly detection accuracy by up to 2% by utilizing LSTM-autoencoder-based modelling for time series data.

Chennai Mathematical Institute *Jul 2019 – July 2021*
Research Assistant *Chennai, India*

- Conducted in-depth research on specific facets of Quantum Field Theory, leveraging problem-solving prowess to formulate and validate mathematical proofs. Contributed to the field by publishing findings in the Journal of High Energy Physics, Springer.

Projects

- **Image-to-Image translation for medical datasets (Computer Vision)** • Github
  Automated the labour-intensive task of analysing the vasculature of retinal images using CycleGANs, cutting the costs by more than 50% to do so. The CycleGAN, trained from scratch using PyTorch, performed unpaired image-to-image translation from retinal images to the vasculature annotation of the retinal image.
- **Generating New Examples for Image Dataset (Computer Vision)** • Github
  Extended the existing medical datasets using state-of-the-art generative models by generating new data, cutting costs and time to collect new data. Created a python package 'diffusion-sde' for easy adaptation of the PyTorch code for distinct datasets.
- **Stochastic Differential Equation(SDE) based Generative Models (Computer Vision)** • Github
  Researched state-of-the-art models to perform unpaired image-to-image translations, potentially improving other existing generative models for the task. The SDE-based generative modelling was used for the task, and the code base was implemented from scratch using PyTorch. Article on Medium.

Awards and Activities

CIUK Cluster Challenge - Second Position – STFC, UK *2021*
- Competed in eight mini-challenges on varied topics such as optimizing deep learning pipelines and benchmarking HPC hardware, set by companies like AlcesfFlight, Lenovo and OCF.

Outstanding Achievement Award – University of Durham, U.K. *2017, 2018 & 2019*

J.A. Chalmers Prize for Masters thesis – University of Durham, U.K. *2019*

Skills

- **CODING -** Python (scikit-learn, NumPy, SciPy, Pandas, Matplotlib, TensorFlow, PyTorch, OpenCV, Flask, FastAPI), OOPs, SQL, Git and Github, Docker, AWS, C/C++, Linux, Bash Shell, LaTeX.