Animesh Srivastava

Address 17 Whitby Court, London N7 0SU
Contact +44 7407 742 303
Website www.animesh-77.github.io
animsriva@gmail.com
LinkedIn
GitHub

Education

University College London - *Master of Science in Machine Learning* Sep 2023 - Sep 2024

- Modules: Machine vision, Graphical models, Bayesian Deep Learning, Supervised learning, Robot vision and navigation, Information retrieval and data mining, Applied Machine Learning and Applied Deep Learning
- Computer vision: Design and analyse CNNs, Variational Auto-Encoders, Data-Augmented vision transformers, 3D reconstruction models and SLAM with PyTorch and C++
- NLP: Create and evaluate query likelihood models (probabilistic and neural network) for document retrieval
- Dissertation: "High Resolution Novel View Synthesis with 3D Gaussian Splatting" supervised by Dr Suran Goonatilake and Daniele Giunchi in collaboration with Bodymetrics under UCL's Industry Exchange Network

St Stephen's College, University of Delhi - *Bachelor of Science in Physics Honours* Jul 2019 - May 2022

- Final CGPA: 8.42/10, equivalent to First-Class Honours (UK)
- Modules: Quantum mechanics, Astrophysics, Mathematical Physics, Linear Algebra and Tensor Analysis, Advanced Calculus and Probability and Statistics
- Computational physics: Develop and evaluate numerical and statistical physics model with Python
- Recipient of the INPSIRE scholarship, awarded by Government of India

St. Dominic Savio College, Lucknow, India - *Secondary education* May 2019

- **May 2019** - Secured **97.6%** in class XII ISC board with a perfect score in computer science and ranked among the top 1% all over India
- **May 2017** - Secured **95.5%** in class X ICSE board with a perfect score in computer science

Experience

Machine Learning Intern - *Bodymetrics, London, UK* May 2024 - Sep 2024

- Investigate and optimise 3D gaussian splatting pipeline for high resolution novel view synthesis for fashion models project page
- Create a new custom ultra-high-resolution dataset, perform hyperparameter tuning and experiment with training loss functions for 3DGS using **Pytorch** and **CUDA**
- Generate renders in Unity to pinpoint shortcomings with high frequency features

Geospatial Analyst - *Pixxel, Bengaluru, India* Jan 2023 - July 2023

- Designed an ML model to monitor farm level crop growth by utilising multispectral satellite data and achieved 80% accuracy on test dataset covering over 10,000 km^2 in Netherlands and USA
- Developed efficient Python scripts to query satellite data, perform image segmentation, time series analysis and K-mean clustering
- Leveraged Plotly/Dash to create an interactive dashboard facilitating real-time monitoring and decision-making for agricultural stakeholders
- Maintained and updated deep learning models post-deployment on company platform, reducing latency and prediction errors by 15%

Summer Research Fellow- *Raman Research Institute (RRI), Bengaluru, India* July 2021 - Sep 2021

- Estimate a stable orbit for a prospective Indian lunar mission, ensuring completion of all mission objectives to enhance mission feasibility
- Simulated satellite trajectories with GMAT, processed results with Pandas and generated plots with Matplotlib/Seaborn to finalise the orbit
- Proposed a final orbit with a 2-year lifespan, eliminating need for station-keeping manoeuvres thereby reducing mission operational costs
- Presented findings to Astronomy & Astrophysics group at RRI and Indian Academy of Sciences, gaining recognition for contributing to national space exploration initiatives

Skills

Programming languages

- **Python**: **Pandas**, **Numpy**, **PyTorch, TensorFlow, Scikit-learn**, **Matplotlib**, **Plotly/Dash**, SciPy, TensorFlow, **GDAL**, **Rasterio**, **GeoPandas**, **xarray/rioxarray**, **pySTAC**
- Competent in JAVA , C++ , C#
- Robotics: ARDUINO and ESP32
- MATLAB
- CUDA for training on GPUs
- Meshlab, CloudCompare and Unity

Other softwares and tools

- **Git** and **GitHub,** JIRA, **Docker**
- **Linux** (**Ubuntu**)
- **QGIS**
- MS Excel, VBA, Word, PowerPoint and LaTeX

Certificates

- “Advanced techniques with TensorFlow using custom models, distributed training, computer vision, autoencoders and generative deep learning” from Coursera
- Guided internship on “Active Fire Detection with Multispectral Satellite Imagery and Deep Learning”
- IELTS score 8.0

Positions of responsibilities

Technical head - *Electronics Society, St Stephen’s College* July 2019 - May 2022

- Led weekly hands-on workshops on ARDUINO projects, mentoring and onboarding over 20 new members
- Oversaw design and construction of an improved obstacle-avoiding robot and a home automation system based on ESP32
- Efficiently monitored logistical requirements of over 50 members throughout the academic year, organised annual society events, attracting over 200 participants from 20+ colleges

Workshop head - *Computer Science Society, St Stephen’s College* July 2019 - May 2022

- Led weekly hands-on Python workshops, covering popular libraries such as NumPy Matplotlib and Pandas
- Organised and facilitated workshops on Machine Learning, Data Science, Data Structures and Algorithms for over 100 students across all courses
- Organised annual competitive coding hackathon on GeeksForGeeks, attracting over 150 attendees from colleges across India

Visa sponsorship

Eligible to work in the UK without the need for visa sponsorship