Suvobrat Ghosh

LinkedIn | Github | shuvamg007.github.io

142E Brittany Manor Drive, Amherst, MA 01002
Email: suvobrat@gmail.com | Mobile: (413)-210-6029

SUMMARY

Computer science graduate with over 4 years of experience researching, developing and deploying machine learning productions systems in vision, social media, ads and fintech. Looking for similar opportunities to build upon.

SKILLS

Languages	:	Python (preferred), SQL, Java, Javascript, C++
Technologies	:	Pytorch, Tensorflow, Numpy, OpenCV, Scikit-learn, Pandas, Matplotlib, Metabase, Pyspark, Redis, SQLAlchemy, Git, Bash, Linux, Tableau, AWS, Docker, Airflow, RabbitMQ, Flask, Java Spring, Celery

EXPERIENCE

Graduate Researcher   Feb 2023 – Jun 2023
Microsoft   *Remote – Amherst, MA, US*

- Researched and evaluated **zero-cost metrics** results across different architectures and datasets to speed up **architecture search** (NAS) for speech recognition (ASR)
- Compared metrics including Synflow, Gradnorm and NASWOT, and their performance across 24 different Conformer architectures on Librispeech dataset, with Synflow showing a **correlation of 0.89** in relative ranking
- Observed similar performance to NAS-Bench-ASR, suggesting that metrics tested on the benchmark dataset does infact transfer over to larger, different search space

Data Science Co-op   May 2022 –– Dec 2022
Ericsson   *Santa Clara, CA, US*

- Developed **active learning** algorithm for **faster labelling of time series data**. Used self-attention and label propagation to contextualize neighbouring data and propagate labels respectively
- Achieved **1.43x faster convergence** compared to uncertainty sampling on Yahoo Webscope S5 dataset
- Collaborated with R&D team in Asia on **evaluation of graph neural network** for predicting 5G tower loads to reduce energy consumption across the world

Machine Learning Engineer   Oct 2019 –– Aug 2021
PayTM CreditMate   *Mumbai, India*

- Led development of **propensity modelling** for arbitration. Built and served statistical and ML models for tasks like address verification, language and connectivity channels preference etc
- The models are integrated with the agency platforms and apps on various levels to assist decision-making
- Created dashboards to monitor outputs and their correctness. Some models supported online updates every fortnight to avoid concept drift
- Helped **reduce average time spent and expense per collection by 127% and 1.8x** respectively

Data Scientist   Oct 2018 – Oct 2019
Flam (formerly Flying Homingos)   *Mumbai, India*

- Developed **context-sensitive advertisements generation algorithms** for the social platform
- Engineered features and interests based on static as well as dynamic user data and interactions such as images uploaded, posts liked, users followed etc
- Provided a portal for the advertisers to onboard themselves, set their target audience and run campaigns
- Also collaborated with the team on system design to automate data collection and engineering pipelines. **Helped increase clickthrough rates by over 3x**

Researcher   Aug 2016 – Oct 2018
Indian Institute of Technology Bombay   *Mumbai, India*

- Researched and developed an application for **automated facial re-enactment**. Used **conditional generative adversarial network** to learn mouth texture distribution, conditioned on its mouth. Oriented the shape using an average 3D model and applied the texture on the target frame with post-processing

- Also worked on **automatic license plate detection** on Indian vehicles. In the absence of a standard licence plate format, a multistage pipeline was built using object detection, text spotting and orientation, character recognition, and language detection
- Did full-stack development on building **Lokacart**, a joint not-for-profit multiplatform e-commerce initiative aimed at facilitating direct business between farmers and consumers

PUBLICATIONS

Determination of porosity of rock samples from photomicrographs using image analysis
Debabrata Datta, Nikhil Thakur, Suvobrat Ghosh, Ramit Poddar, Sharmila Sengupta

IEEE IACC 2016
Link

EDUCATION

University of Massachusetts Amherst
MS in Computer Science (3.8 GPA)

Amherst, MA, US
Aug 2021 – May 2023

University of Mumbai
BE in Computer Engineering (8.6 GPA)

Mumbai, MH, IN
Jul 2012 – Aug 2016