SANGEET KUMAR MISHRA

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EDUCATION

Indian Institute of Technology (IIT) Kharagpur, West Bengal, India   2016 – 2020
Bachelors in Technology (Hons.) Civil Engineering

WORK EXPERIENCE

Quantitative Research Analyst JP Morgan Chase and Co.   Jul'20 - Present
- Developed **regression testing** across 24 Exercises using multiprocessing and created mail alert system using **SMTP and MIME**
- Developed **auto-doc** to automatically generate Backtesting Documentation, reducing time taken from **4 hours to under 10 seconds**
- Developed Loss Given Default model for Debt Portfolios exceeding 500Bn USD using Python and R using statistical methods
- Worked on Model Forecasting Engine across 5+ models leveraging **Low Level Design** concepts and **multiprocessing**
- Improved performance of existing backtesting engine **by upto 20x** by efficient vectorized implementation
- Worked on data processing, validation and backtesting of Expected Loss models

Software Developer - Google Summer of Code | Python Software Foundation   Summer '18
- Fixed and improvised the grepping system of Mercurial to add '–all' flag and 'grep' on history as per the Grep Plan
- Improved functionality of 'diff' in Mercurial to show colorised in-line diff and better 'diff' output of tests suite results
- Worked on multiline commit message support
- Added passing of revision number instead of revision hash to histedit mercurial extension

Data Science Intern Anheuser-Busch InBev   May'19 - Jul'19
- Built an automated Data Visualization pipeline from the Data Lake using Python Scripting and SQL Queries
- Brought insights from the employees data and built tool to identify relevant clusters of concern
- Used Machine Learning models like Random Forests to find major drivers for Employee Attrition in the organization

Software Team - Autonomous Underwater Vehicles   Feb'17 - Mar'18
- Implemented Deep Learning methods for buoy detection using Single Shot Multi Box Detector and Mobile Nets
- Made the inference of models fast and suitable for the bot using Movidius Neural Compute Stick and reduced the cost

SKILLS AND EXPERTISE

• **Skills**: Linux, Backend (Flask, Node, Express, MongoDB), Frontend (HTML, CSS, JS, React), Devops (Terraform, Docker)
• **Languages**: Python, C, C++, JavaScript, R
• **ML/Data**: TensorFlow, Scikit Learn, PyTorch, Keras, OpenCV, FastAI

VOLUNTEER EXPERIENCE

Mentor - Google Summer of Code 2019 | Mercurial, Python Software Foundation   Summer 2019
- Mentored and helped the students new to Mercurial codebase getting familiar with it.
- Helped them bond with the Mercurial developers community, and resolved their technical and non-technical issues.

Kharagpur Open Source Society | *Advisor and Former Executive Head*   Oct'17 - Present
- Contributed to the development of KWoC 2017 Website with more than 2700 registrations KWoC 2017
- Mentored students in Kharagpur Winter of Code 2017 : **Generative Adversarial Networks**
- Successfully conducted the first ever Open Source Summit during the Tech Fest of Kshitij 2018 and in Kshitij 2019

PROJECTS

AudAn: Smart India Hackathon
- Developed AudAn, a web based app doing Cognitive Analysis of students in a classroom to evaluate their performance
- Qualified to Top 6 Nationally in the AI for Education theme in Smart India Hackathon 2019 by Govt. of India

VySyBl
- Developed a Blind Assistant System on Xilinx PYNQ Board by building an Image Captioning and TTS pipeline
- Won 1st Prize in Xilinx Innovation Challenge 2019 among 11 different engineering institutes across India in KTJ'19

Other Projects Some other small projects on GitHub.
• **Synisto**: A Collaborative Filtering based application to suggest movie to users on MovieLens 1M dataset — GitHub
• **Sign Language Detection**: A Deep Neural Network based program to detect hand signs from 0 to 5 — GitHub
• **Image Compressor**: KMeans Clustering based compression which achieves a 6 times reduction in size — GitHub