Akhil Agnihotri

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EDUCATION

Birla Institute of Technology & Science, Pilani — CGPA - 9.53 *2016 - 2020*

B.E. Mechanical Engineering, Data Science (Minor) — Dean's Merit List.

Coursework Non-linear Optimisation, Linear Algebra, Applied Statistics, Data Structures and Algorithms, Machine Learning, Object Oriented Programming, Database Management, Operating Systems.

Proficiency C/C++, Python (TensorFlow, Keras, NLTK), Java, MATLAB-Simulink, Unreal Engine.

EXPERIENCE

⋆ **Quantitative Researcher, JPMorgan Chase & Co.** *8/20 - Present*

Part of the Equities and STRATS division working towards devising pricing models on structured derivative payoffs and developing algorithmic-tradable indices and trading strategies for the division.

⋆ **Research School, Max Planck Institute for Software Systems** *7/20 - 8/20*

One of 90 students selected worldwide for learning about research in computer science, including databases and data analysis, distributed systems and network architecture, and large-scale machine learning.

⋆ **Research Intern, SafeAI Lab, Carnegie Mellon University** *6/19 - 12/19*

Worked with Prof. Ding Zhao at the Robotics Institute on

- **Optimal LiDAR Configuration:** Using perception area to solve a min-max optimization problem of determining the optimal LiDAR configuration(s) based on 3D occupancy grids.
- **Simultaneous Localisation and Navigation:** Generation of vehicle interaction scenarios in CARLA using Dirichlet and Gaussian Processeses, and validation on a two-robot system using AruCo markers.

PUBLICATIONS

1. Zhang W, Wang W, Agnihotri A, Zhao D. *Multi-Vehicle Interaction Scenarios Generation & Interpretable Traffic Primitives and Gaussian Process Regression.* International Conference on Robotics and Automation (ICRA) 2020.
2. Agnihotri A et. al. *A Convolutional Neural Network Approach Towards Self-Driving Cars.* IEEE Indicon 2019.
3. Agnihotri A, Sai A, Gupta A. *A Review on Superplastic Forming of Ti-6Al-4V.* Journal of Alloys and Compounds.

SELECT PROJECTS

Robust Vision using Neural Networks under Prof. N.L. Bhanumurthy, BITS Pilani *1/19 - 4/19*

Development of a human vision mimicking generative CNN with Feedback which allows for bidirectional communication between layers resulting in more accurate predictions.

Forecasting Equity Realized Volatility under Prof. Aruna Malapati, BITS Pilani *10/18 - 1/19*

Tested Bagging, Random Forests, Support Vector Machine and PCA to predict RV for 100 NYSE firms and applied LASSO to reduce dimensionality to select a model based on MSE.

DISTINCTIONS AND COMMUNITY

Hyperloop India - Controls & Dynamics Engineer for Team India for SpaceX's Hyperloop Pod Competition 2018.

Founder- Bumbling.Tumbling.Clicking: A social entrepreneurship photography start-up with 15 clients and 3 NGOs.