

# Akhil Agnihotri

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## EDUCATION

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**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

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★ **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 Processes, and validation on a two-robot system using Aruco markers.

## PUBLICATIONS

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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

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**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

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

**Founder-** [Bumblng](#).[Tumblng](#).[Clicking](#): A social entrepreneurship photography start-up with 15 clients and 3 NGOs.