Hitesh Kumar

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Experience

- **Euler Motors** — New Delhi, India
  Deep Learning Engineer - Autonomous R&D — *Aug 2022 - Present*
  - Building **ADAS(Advanced driver assistance systems)** (L-2 level) in pure C++ to run efficiently on low-cost edge devices. Equipped with Forward amd rear collision warning system, automatic braking system.
  - Built & compress object detection model by 60% and segmentation model by more than 50%.
  - Wrote and maintained high quality production level documented C++ code for ADAS system to achieve **inference under 70ms and generate alerts at 10Hz** thus to reduce **hardware cost by 120%.**
  - Created OTA(over the air) feature for **ADAS scalable deployment pipeline** on pilot vehicles.
  - Conducted research on building deep learning models for monocular camera to generate 2D LiDAR points cloud.
- **SynergyLabs** — Gurugram, India
  Deep Learning Engineer - R&D — *July 2021 - Aug 2022*
  - Trained and tailored classification & object detection models with an appropriate combination of data augmentation to **increase model performance by 14%**. Dockerized APIs for model deployment on cloud.
  - Designed ANPR (Number Plate Detection System) pipeline in golang to achieve **20% better performance**.
  - Developed VASD product from scratch deployed on highway locations to detect vehicles less than 6% speed error .
  - Constructed pipeline for Oculii 4D radar to parse data for 30% better visualization in bird-eye perspective.
  - Worked on attention based OCR model for license plate with 95%+ accuracy on standard number plates.
- **SynergyLabs** — Gurugram, India
  Deep Learning Intern - R&D — *Feb 2021 - July 2022*
  - **Worked closely with the founder** in the development of the "ATCS" product to deploy on 300+ locations.
    - Curated dataset for fine-tuning model like MobilenetV2 & reduced its size to 2MB (by 30%)
    - Communicated and conveyed product functionalities to Clients and improved over feedback within 1 week.
  - **Debug issues and maintain documentation** of error resolved to save 3+ hours for fellow teammates.
  - Developed UI application using PyQT to configure ATCS product to reduce manual configuring effort by 3x.
- **Mars Rover (Team InfernoDTU)** — New Delhi, India
  Software Head - Autonomous Department — *Aug 2018 - Jan 2020*
  - Lead autonomous department in the tech team with 5+ members in the development autonomous functionalities of Mars Rover Prototype to compete in **national/international competitions**.
  - Advanced quality of ROS code & algorithm to significantly improve the performance by 60% .

Achievements

- Published 2 research papers in notable peer-reviewed journals.
- Team Inferno DTU participated at Indian Rover Challenge(IRC'19) held in Manipal Institute of Technology and secured 7th position among the 32 teams from 5 countries across the world
- Team Inferno DTU participated and won the 1st prize in skidpad and runner-up in autocross, at International Go-Kart Championship '18 (IGC'18).
- Completed 'Robotics: Aerial Robotics(Coursera)','Intoduction To Self Driving Cars(Coursera)', 'Data Visualization (Kaggle)', 'AWS Machine Learning Foundation Course(Udacity)', 'Modern Deep Convolutional Neural Networks with Pytorch(Udemy)' , 'Robotics: Perception (Coursera)'

Education

- **Delhi Technological University(formerly DCE)** — New Delhi, India
  Bachelor of Technology in Mechanical Engineering — *2016 – 2020*
- **Kendriya Vidyalaya, Masjid Moth** — New Delhi, India
  High school — *2016*

Skills

- **Languages**: Python, C++, Golang — **Interests**: Machine Learning, Deep Learning, Computer Vision
  Tools/Platforms: ROS, Linux, Nvidia, Raspberry Pi — **Extra**: Basic Korean Language, Guitar Player, Reader