Avinash Koppula

Bachelor of Technology in Electrical Engineering(Power and Automation)   Email: avinashkoppula28@gmail.com
Indian Insitute of Technology Delhi, India   Mobile : +91-7674923455
https://www.linkedin.com/in/avinash-koppula-36885017a/

EDUCATION

- **Indian Institute of Technology, Delhi**   New Delhi, India
  B. Tech in Electrical Engineering (Power and Automation) (CGPA 6.583)   *2018-2022*
- **Sri Chaitanya Junior Kalasala**   Andhra Pradesh, India
  Class XII (97.5 percentage)   *2018*
- **Gowtham(E.M) High School**   Andhra Pradesh, India
  Class X (CGPA 9.7)   *2016*

TECHNICAL SKILLS

- **Languages**: Java, C/C++, Python, MATLAB, Verilog HDL   • **Others**: Autodesk, MS Office, PostgreSQL, Grafana

INTERNSHIPS

- **Tensor Dynamics: Weather Research and Forecasting System Automation** (May 2021 - July 2021)
  - Downloaded the raw weather data of 10 years from **GFS/FNL** sites and simulated the data over **WPS**.
  - Pre-processed the simulated data to sort and fill the missing gaps using **Resample method** .
  - Uploaded the database and Automated (NetCDF files) with **"postgreSQL and Grafana dashboard visualisation"**.

- **Verzeo EduTech :** Verzeo Internship Program Machine Learning (April 2020 - June 2020)
  - **Predicted Cost of used Cars**: Collected data of costs of used cars and predicted the data using **Linear Regression**.
  - **Exploratory Data Analysis**: To understand how the Student's Performance is affected by other variables with providing Suitable graphs and visualisation.

PROJECTS

- **Classification of Diabetic Foot Ulcer** (Febrauary 2022- April 2022) :
  - Collected a dataset full of images from different backgrounds such as war areas, under developed areas etc.
  - Classified images into Diabetic and Non- Diabetic ulcers by using **EfficientNet code** using Machine Learning in python.
  - Developed **DFUNet code** and have compared the results of it with EfficientNet code.

- **Backend for 3D visualization software** :
  - Implemented **graph** using 3D array lists, to create polygons made of smaller triangles that are displayed in the context.
  - Made efcient search, add and delete functions for triangles in the graph using **DFS, BFS** and **shortest path algorithm**.

- **Flight Trip Planner** (May 2021) :
  - Implemented a **Graph data structure** By assuming the cities as nodes and the edges as fights between cities.
  - Implemented **Dijkstra's algorithm** to find the path of shortest time between the given start and end cities.

- **The Platform for Buyer-Seller on an online shopping website** (August 2019) :
  - Used **multi-threading** to allow sellers to pick items from inventory and sell them on the shared catalogue simultaneously.
  - Buyers buy items the from shared catalogue from a trusted/better-rated seller first done by using binary **max heap**.

- **Make Mule-bot Communicate with each other to enhance functionality** (April 2021) :
  - Team Project wherein we have designed a mule bot that follows us while shopping, and helps us to manage our budget.
  - Determined the specifications of the bar code scanner, finalized the design of the shopping cart to suit the functionalities.
  - Worked on how the bot reaches the docking station for its automated charging, when its charging is low or when not in use.

- **Student Database for IIT Delhi** :
  - Modelled a student database management system using Hash maps, B-trees and tries and reduced operation time to O(1)

- **Handwritten Digit Recognition** (March 2021) :
  - Used a **multiple one vs all logistic regression model** and build a multi-class classifier containing 10 classes(0-9), **Regularisation** is also done in Machine Learning.
  - Also implemented a neural network with 3 layers for the detection of the digits without using any standard libraries.

EXTRA CURRICULAR ACTIVITIES & SCHOLASTIC ACHIEVEMENTS

- **KVPY Scholar (2017-2018)**: Secured a rank of 149 and Selected as a Scholar under 'Kishore Vaigyanik ProtsahanYojana' which is implemented by IISc.

- **Dance Club** : Have Participated in Institute Dance Production(IDP 2019) event.

- **Sports Club** : Runner up in Hammer Throw competition which was conducted over InterHostels in IIT Delhi.