Kaustav Ghosh

+91-8800441954 | teetangh@gmail.com | GitHub | LinkedIn | Gugraon,India

EDUCATION

Manipal Institute of Technology *2018-2022*
BTech in Computer Science and Engineering specializing in Computational Intelligence *CGPA: 8.45/10*
Interests: Artificial Intelligence and Robotics

INTERNSHIPS

- **Samsung Research, Bengaluru - IoT Products and Analytics Intern** *Jun'21-Jul'21*
  - Working on developing MQTT bridge functionality in Moquette, a lightweight Java MQTT broker
- **Qbotics Labs - ROS Engineer Intern** *Jul'20-Aug'20*
  - Constructed a Differential Drive with caster wheel from scratch using URDF and XACRO files and mounted the same with laser scanner , IMU and Velodyne Puck VLP-16 Lidar and simulated the same in Gazebo and Webots
- **Microsoft Student Partners-Machine Learning Intern** *Apr'20-Jun'20*
  -Guided a team of 10 individuals to collaborate and accomplish a Regression task of price prediction of used cars in a machine learning pipeline through Exploratory Data Analysis,Feature Engineering and Model Building.

RESEARCH PROJECTS

- **Samsung PRISM - Intelligent Ranking for Dynamic Restoration in Next Generation Wireless Networks** *Sep'20-Mar'21*
  - Implemented Machine Learning algorithms and Feature Engineering techniques to predict KPI values for eNodeB-s and consequently a ranking system to orderly restore them during network failure.

ACADEMIC PROJECTS

- **Compiler Frontend for subset of C-Language**
  *- Coded a **Lexical Analyser** that extracts tokens from a C source file and a **Symbol Table Generator** to store information of identifiers and functions and a **Recursive Decent Parser** that semantically parses the grammar for subset of C-Language by analysing the tokens generated by a Lexical Analyser*
- **Mini Games based on Backtracking**
  *- Coded a **Crossword Solver** that takes a 10*10 grid and word list and outputs a grid with the words accurately filled*
  *- Coded a **Sudoku Solver** that takes a partially filled 9*9 Sudoku grid and outputs a solution so that every row, column and nine 3x3 sub-grids contains exactly 1 instance of the digits from 1 to 9.*
- **Machine Learning Algorithm Implementations**
  - Implemented basic machine learning algorithms such as Linear Regression, K-Nearest Neighbours, Logistic Regression,K-Means Clustering from scratch without existing machine learning libraries.Currently implementing gradient descent algorthims
- **Covid 19 Time Series Forecasting, Data Analysis and Web Scraping**
  - Prepared a complete Data Analysis report on the World-wide COVID-19 attack statistics and used the Facebook's fbprophet Time-series Forecasting library to speculate the number of active corona victim cases in the upcoming days.
- **Food Labs Robotics Startup Competition**
  - Designed, modelled, constructed and Assembled a plethora of sensors and Robots across multiple software platforms like freeCad, Blender, Gazebo and also fabricated a Defense Building from scratch using floor plan and Gazebo World Editor
- **Analysis of Selective Compliance Assembly Robot Arm and Modelling of T3R Robot**
  - Computed DH parameters for the SCARA robot and used it to compute the Forward and Inverse Kinematics of the robot arm and also its Lagrange Euler Dynamics

TECHNICAL SECTION

Softwares Used: AutoCAD,Matlab,Keil,Altera MaxPlus 2,VirtualBox,Vm Ware,Oracle SQL,GNS 3 Network Simulator
Programming Languages: Fluent in C/C++ & Python ,Familiar with Java ,Verilog,LaTeX,Linux Shell Scripting, fair acquaintance with ARM assembly programming*(NXP LPC 1768)*
Libraries & Frameworks:C++-STL **Java**-JavaFX GUI **Python**-Numpy, Pandas, Scikit-Learn, Keras, Tensorflow , PyTorch
Operating Systems Used:Windows-XP,Vista,7,10 **Linux**-Ubuntu