Irfan Mohammad Al Hasib

Machine Learning Engineer

19 November 1993

66-13, Horikawacho, Saiwai-ku, Kawasaki, Kanagawa, Building: Kawasaki Technopia Horikawa-cho Heights, Room : 606, Postal Code : 212-0013

+81 070 3832 6371

https://irfanhasib0.github.io/

irfanhasib.me@gmail.com

About me

I am a passionate engineer, always seeking to learn something new. I am interested in designing smarter systems for advancement of humanity

Skills

Deep Learning

Deep Neural Network
Convolutional Neural Network
Reinforcement Learning
Proficient in Tensorflow & KERAS with Python
Proficient in Python, numpy, pandas, sklearn

Machine Learning

Linear and Logistic Regression
Decision Tree, CART, Gradient Boosting
SVM,Naive Bias, KNN

Robotics:

Computer Vision Algorithms (OpenCV)
Basic Robot Operating System (ROS)

Data Structure and Algorithms

Graph Search Algorithms
Sorting, Search and Tree based Algorithms

Embedded System Design

AVR Microcontroller (C++), Basic ARM
ESP 8266, Raspberry Pi (Python, C++)

Experience

Artificial Intelligence Engineer
Hiperdyne Corporation
www.hiperdyne.com(June, 2019- Till Present)

» Valve Position Controlling by observing sensor values for Oil Refinery Plant using reinforcement learning algorithms. The system was deployed to real industry and performed better than human expert.
» AI based Scoring System for optimal oil shipping route planning using Inventory data and Ship Schedules.
» Oil Refinery "After Burn" phenomenon level prediction from Sensor Values using Deep Learning based techniques, for taking early measures to benefit production.
» Oil Refinery Performance Evaluation. The system reduce dimension of high dimensional sensor data to visualize of latent low dimensional space of interest.

Jr. Research Engineer (Product development and Research Dept.)
Pi Labs Bangladesh Ltd.
www.pilabsbd.com(August, 2017- September, 2018)

»Programmable Syringe Infusion Pump Development (AVR)
»IOT Based Security and Monitoring System Development (Raspberry Pi, ESP8266)
»Battery Health Monitoring System Development (AVR)

Mars Rover Challenge

2016 Participated along with my team, Interplaneter in University Rover challenge , 2016 at Utah, USA. Our team attained 5th position in Phobos final. I was in charge of Robotic Arm Design and deployment. The Competition is organized by Mars Society, USA anually for college students world wide. URC 2016 Result,Critical Design Review YouTube

Machine Learning Project

2020 Machine Learning Algorithms implementation from Scratch (DNN, SVM , CART, Logistic Regression, Naive Bias, KNN) GitHub link
2020 Reinforcement Learning Algorithms from Scratch (DQN, DDPG, A2C, PPO) GitHub link
2019 YOLO, U-Net, FlowNet with Tensorflow-Keras GitHub link
2019 Kaggle Competition : House Price Prediction GitHub link

Robotics Project

2019 Implementing MPC, ILQR Algorithms from Scratch GitHub link
2018 Designed a simple two link Robot using URDF and written driver codes for ROS in Python. YouTube link
2017 Desktop CNC Machine using AVR Platform. YouTube link
2014 Visually instructed Robotic arm in AVR Platform. YouTube link 1 and link 2

Education

2017 **B.Sc. in Mechanical Engineering**
Bangladesh University of Engineering and Technology (BUET)
CGPA: 3.23 out of 4.00

2011 **HSC (Science)**
Rajuk Uttara Model College, Uttara, Dhaka 1207
GPA: 5.00 out of 5.00

2009 **SSC (Science)**
Rajuk Uttara Model College, Uttara, Dhaka 1207
GPA: 5.00 out of 5.00

Skills

Programming

Proficient in Python
Working Experience in C++

Design Software

Proteus for Circuit Design
SolidWorks for CAD Design

Language
English : Business level proficiency in English
Japanese : Passed NAT-N5

Academic Project

2015 A Remote control Surveillance robot.(Undergrad Project)
2016 Fusion of GPS and IMU data for precision velocity measurement(Undergrad Thesis)

Co-Curricular activities

2016 ***Founding President at BUET ROBOTICS SOCIETY (BRS)***
2016 Co-organized Annual Robotics Competition for BRS

Publications

2016 Development of a two wheeled self balancing robot with speech recognition and navigation algorithm, Journal : AIP Conference Proceedings

2019 Integrating data mining and microsimulation modelling to reduce traffic congestion: A case study of signalized intersections in Dhaka, Bangladesh Journal : Urban Science

2021 My most recent research work as main author on Visual Odometry and Auxiliary Task guidance is under review for a renowned conference.