ABHISHEK KUMAR GUPTA

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EXPERIENCE

Windows Presentation Form Application in C# (named BioPack)

Summer Internship under Dr Prabir Sarkar

📅 June 2019-July 2019   📍 IIT Ropar

– Developing a software for use in the design lab at IIT Ropar.

– Used **.NET Framework, XAML ,C# ,drive API** to interact with the data stored in the google drive.

– The application enables any new user to search from, edit and manage the dataset comprised of videos ,images and text.

PROJECTS

Image Denoising Using Autoencoders in Keras and Python

Deep Learning

📅 Completed,April 2020   📍 IIT ROPAR

- The aim of this project is to remove noise from images in a dataset and give a clear image so that further operations can be done on the dataset effectively.
- Implemented the deep learning model using tensorflow and python programming language.
- The model was trained on the MNIST Dataset which consists images of handwritten digits of 28x28 size.

Web Application using Flask for Object Detection from Live Video Streams-YOLO-OpenCV

Future Ideas: Implementation in drones for tracking purposes

📅 January 2020-present   📍 IIT ROPAR

- Implemented object detection model using python programming language and openCV along with accuracy% displaced in the output image.
- The YOLO(You Look Only Once) is a single stage object detector which is pretrained on the COCO dataset.
- Can identify upto 80 different classes including humans,cars,trucks, many more.
- Used Flask to create a web app to show the live detections.

Pipelined RISC-V Simulator

Computer Architecture Course Project

📅 Completed,Feb-May 2020   📍 IIT ROPAR

- Created a RISC-V Simulator to run assembly codes using Python
- Five Staged Pipelined version was implemented to improve the performance and running time.
- Created a GUI using PyQT to make it more user friendly.

Other Projects

- **Whack a Mole Game** -Implemented a game of hitting moles which are generated randomly on a FPGA board using verilog.The scores of the players are updated in real time on seven segment display.
- **Drone** using NAZA flight controller, brushless motors,ESCs under Aeromodelling Club IIT ROPAR
- **Self Balancing Bike**- Made a smart vehicle using ArduinoUNO, Bluebooth module ,MPU 6050 which balances on its own.
- **Fast Adders**-Carry Select Adder,Carry Look Ahead Adder,Ling Adder, Carry Skip Adder- implementation in verilog.

SKILLS

- Languages Known

`C++` `C` `Java (Basic)` `Python`

- Frameworks/Tools/OS/Libraries

`Git` `Visual Studio` `Pandas` `Numpy` `Linux` `Arduino` `PyQt5` `Web Development` `Keras(Learning)` `tensorflow(learning)` `OpenCV(learning)`

RELEVANT COURSES

Data Structures and Algorithms ,Computer Architecture ,Pragmatics and Paradigms ,Digital Logic Design ,Linear Algebra ,Probability and Statistics ,Differential Equations ,Discrete Mathematics ,Introduction to Data Science(Coursera) ,Machine Learning Andrew NG(Coursera)

EDUCATION

Btech in Computer Science and Engineering(2nd Year)

CGPA :7.9/10

📅 2018-2022   📍 IIT Ropar, Punjab

Intermediate (CBSE)

Percentage: 93.4%

📅 2018   📍 VBCV,Telco, Jamshedpur

Matriculation(ICSE)

Percentage: 93.2%

📅 2016   📍 Tagore Academy,Jamshedpur

POSITION OF RESPONSIBILITY

- Coordinator of Aeromodelling Club ,IIT Ropar (2019-present).
- Event Head in Advitiya 2020 (Technical Fest of IIT Ropar).

MISCELLANEOUS

- Qualified in the internal hackathon in college for **Smart India Hackathon (SIH) 2020**.
- Under **Top 100**, in the Dare2Compete Online Hackathon Festival 2020.
- Won 1st prize in Hackathon, participated in Drone, Robowar in Advitiya 2019 at IIT Ropar.
- Volunteer at **BAJA SAE INDIA 2019** held at IIT Ropar.