Shakra Batool

CONTACT INFORMATION
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RESEARCH INTERESTS
: Image Preporocessing, Classification of Images, Segmentation of Images, Machine Learning, Deep Learning, Data Mining, Feature Extraction from Medical Images.

EDUCATION
: **COMSATS University**, Islamabad, Pakistan.

BS. Bioinformatics (major in Computer Science)   Feb . 2017 - Jan. 2021
- **CGPA:** `3.46 out of 4.0`
- **Thesis**: Cancer Detection and Segmentation Using Deep learning .
- *Brief Description*: this invloves the fine tunning of pre trained architectures of CNN models that classify the input images of mammograms and histopathological images in to malignant and benign tumor. Second part of the project is segmentation which is done by training the model and trained model segment the nuclei present in histopathological input image along with nuclei count.

FSc. Pre-medical   June. 2013 - May. 2016
- **Marks:** `844 out of 1100`

Relevant Courses
- *Artificial Intelligence and Neural Networks*
- *Deep Learning*

LANGUAGES AND TOOLS
- **Languages:** Java, C++, Python, SQL. I am also familiar with HTML, Visual Studio, C#.
- **Tools:** Eclipse, Idle, Google Colab, Netbeans, Visual Studio, MS SQL Server, XAMP.

COURSE PROJECTS
- **Cancer Detection and Segmentation:** This was my final year project of undergraduate. This involves the detection of Cancer using Deep Learning CNN (Convolutional Neural netwrok) models from images like CT Scan, XRay or MRI. I used the images of mammograms along with Histopathology images for classification into malignant and benign tumor using pre-trained model like VGG 16, Resnet and Mobilenet and also segment the nuclei present in Histopathology images using UNet model. The system will facilitate radiologists and pathologist to diagnose breast cancer easily and efficiently.

- **Restaurant Management System:** This project was based on whole management of Restaurant including staff, owner and customers. The owner can update the Staff details and check other requirements, Staff deals with customers, check their orders and response them. Customers can order food online along with room reservation. The Management System was built in JAVA language.

- **Human Proteins Extraction Tool:** Objective of this project was to extract human proteins from bunch of proteins and providing their details to user on his query of proteins. The tool was made in Python language.

- **Wampus World:** This was a project for course of Artificial Intelligence in which there were 16 blocks having GOLD, PITS and Smell present in random blocks. The agent has to move with different arrows and to get the GOLD for winning the game. If he reaches the block with PIT or Smell, he failed. The game code was built in Python.

- **Fisher Price Game:** This project was a game namely Fisher Price Game made for course of Model Programming Languagues in which there were 3 different categories of learning, one for alphabets along with sound A-Z, second for counting 1-10, and third for poems along with colors and shapes. The target audience of this game were children and the source code was written in C language.

OTHER SKILLS

- Drug Designing by receptor legand binding using Bioinformatics Softwares like Hex Software, Ligplot Plus, PDB Editor, Chimera, Wincoot.
- Study of DNA of different species using NCBI, EBI, SwissProt .
- DNA to Proteins Conversions using Bioinformatics Tool ExPasy.
- Identifying Novel proteins and compare their sequences with other protein's sequences using BLAST, FASTA, Rasmol, ClustalW, Emboss.
- Microsoft Word, Microsoft Exel, Microsoft Powerponint, Microsoft Access.

LANGUAGES AND TOOLS

- English
- Urdu