Ahsan Bilal

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EDUCATION

National University of Sciences and Technology   **Islamabad, PK**

Bachelor of Electrical Engineering (Major: Microprocessors Systems, Computer Networks, Machine Learning)   ***Expected June 2024***

- **Cumulative GPA:** 3.67 (6 Semesters)

WORK EXPERIENCE

Research Assistant   **Islamabad, PK**

OPTIMAL MACHINE LEARNING **– Lab, SEECS - NUST**

*During my summer internship, I am engaged in working on my Final Year Project (FYP) titled **"Gait Recognition and Analysis Using Human Poses"** and focusing on Publishing a Journal Paper. Under the guidance and supervision of **Dr. Ahmad Salman**, my primary objective is to develop a hybrid model capable of learning sequence parameters through both video frames and the poses extracted from these frames. This approach aims to enhance the model's robustness, allowing it to learn from skeleton poses in cases where images are pixelated, and vice versa.*   ***Jan2023 – Present***

UG Research Intern   **Islamabad, PK**

CSN – ML Lab, SEECS - NUST

*As a research assistant, I collaborate with master's students under the supervision of **Dr.Rehan Ahmed** and **Dr. Rizwan Ahmed** on machine learning and deep learning projects, working on tasks such as data augmentation and data labeling task using **LabelMe** for the optimization of the machine learning model for **UAVs Landslide Imaging**.*   ***Feb 2023 – August 2023***

UG Summer Intern   **Islamabad, PK**

IC Design Lab, SEECS - NUST

*As an IC design summer intern, I gained hands-on experience working with **STM 32** discovery board and developing various applications, including **RFID** systems and **TTL** display using **embedded C** and **Cube IDE**. This opportunity allowed me to strengthen my technical skills, while working collaboratively in a team environment to deliver high-quality results.*   ***June 2022 – Aug 2022***

UI Developer   **Dubai, UAE**

SJCurve **- Remote**

*Experienced UI Developer specializing in responsive web app development with **WordPress** and **React.js**. Skilled in creating visually appealing, user-friendly interfaces by customizing themes and integrating frontend with backend. Collaborative team player with a passion for staying updated on industry trends and delivering exceptional UI. Committed to achieving top-notch results and enhancing user satisfaction.*   ***March 2023 – Present***

UI/UIX Designer   **Wahh Cantt, Pak**

Meraki-IT **- Remote**

*Working on the projects' design aspects. As a **UX/UI Designer**, I am responsible for producing user-centered and effective designs. Understanding the issue statement in its entirety and offering a solution through the finished product is the first step in developing a website. These projects are mostly focused on the technology sector.*   ***Nov 2022 – Mar 2023***

State Life Insurance Company   **Multan, PK**

Electrical Engineer Intern

- *As an electrical engineering intern at State Life Insurance Company, I gained practical experience in power distribution and lighting design, collaborated with cross-functional teams, and provided technical support*   ***June 2021 – July 2021***

EXTRACURRICULAR ACTIVITIES

- Deputy Director of Team Graphics in **Orientation of Nust 2022**
- Executive Member **TABA** Youth Chapter Nust

Projects

Human Gait Recognition System: [Github](#)
- This system aims to analyze and identify individuals based on their unique gait patterns and skeletal poses, contributing to advancements in biometric recognition technology. State of the art result achieved. Working on Research Paper.

CIFAR 100 ResNet Model [Github](#)
- Scratch Training of ResNet Model on CIFAR-100 Dataset with Improved Accuracy through the Introduction of an Attention Mechanism

Malaria Detection Model on TensorFlow [Github](#)
- This project involves building a machine learning model to classify the cell images either it is affected or unaffected by malaria, during my course on learning TensorFlow.

Sign Language Detection using YOLOv5 [Github](#)
- Used **labelmg** for the data annotation and finetuned Yolov5 for Sign Language detection on local dataset.

Human Emotion Detection [Github](#)
- This project involved building the machine learning model using TensorFlow to find the humans' emotion using the images of their face.

Live Feed Surveillance Robot using Raspberry Pi
- The robot will utilize the Raspberry Pi OS to process video feeds and use OpenCV for real-time object detection and tracking. Involved live feed surveillance robot using raspberry pi model 4 OS and OpenCV programming.

Audio-Matching-Shazam-Style-Using-Hashing [Github](#)
- Implementation of official shazam research paper and try to implement it on our local dataset. Algorithm is Provided by Shazam Official Repository

RFID Based Security System with STM 32 Discovery Board [Github](#)
- Implement firmware to authenticate RFID tags, activate the lock mechanism, and trigger alerts for unauthorized access attempts, while leveraging STM-32 discovery board's built-in features for system control and management.

Honors and Awards

- Selected as an Undergraduate **Research Intern** for the First Cohort of **UGRIP** by **MBZUAI**.

Conferences

- **International Conference on Artificial Intelligence (ICAI'21)** Core Team Member
- **Devfest'21** (Core Team Member)
- **CodeFest'21** (Core Team Member)
- **Solution Fest 21** (Core Team Member)

Volunteer Work

- RIZQ NUST
- TABA Youth Force NUST
- Youth Insight Pakistan
- Khalq Foundation Pakistan
- Australian Indigenous Mentorship Experience (AIME)