



Sohail Anwar

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Home: (Pakistan)

ABOUT ME

A dynamic and innovative Electronic Engineer with a solid background in IoT system development, deep learning, and real-time monitoring solutions, specializing in cotton crop disease detection. Proficient in Python, MATLAB, and C++, and adept at research and teaching. A strong team player with excellent communication skills, ready to contribute to cutting-edge technology development.

RESEARCH INTERESTS

Machine Learning, Deep Learning, IoT, Robotics, Embedded System Design, Precision-Agriculture

TEACHING INTERESTS

Machine Learning, IoT Design, Hardware Programming, Embedded System Design, Electronics Circuit Design, Digital Electronics

WORK EXPERIENCE

Research Assistant

Mehran University of Engineering & Technology [01/12/2021 – 30/06/2023]

City: Jamshoro

Country: Pakistan

Point-of-Care Testing and IoT-Based System for Real-Time Cotton Crop Disease Detection (funded by Sindh Higher Education Commission under Sindh Research Support Program **Project Grant No. SHEC/SRSP/ET-5/22/2020-21**)

- Developing a deep learning model for cotton crop disease detection, utilizing a collected and preprocessed dataset with GAN augmentation techniques.
- Designing of Raspberry Pi-based point-of-care testing prototype device for real-time cotton crop disease identification, integrated with the deep learning model.
- Creating a mobile application to enable farmers and stakeholders to monitor crop health using the point-of-care device.
- Implementing a MySQL database for storing real-time monitoring data, and developing user-friendly HTML web pages for data visualization.

Lead Instructor Internet of Things (IoT) System Development & Applications

National Vocational and Technical Training Commission (NAVTEC) Mehran University Jamshoro [01/11/2021 – Current]

City: Jamshoro

Country: Pakistan

- Designed and delivered a comprehensive IoT course curriculum, encompassing sensor networks, hardware programming, and wireless communication protocols (Bluetooth, WiFi, LoRaWAN).
- Utilized industry-standard tools and platforms (e.g., Arduino, Raspberry Pi) to instruct students on IoT system design and implementation.
- Taught remote device control, database design (MySQL), Firebase-based application development, and Android app creation using MIT App Inventor.

EDUCATION AND TRAINING

Masters in Engineering (Electronic System Engineering)

Mehran University of Engineering & Technology [04/03/2021 – 10/03/2023]

Address: Jamshoro, 76090 Jamshoro (Pakistan)

Website: <https://www.muett.edu.pk/>

Final grade: 3.87 CGPA

Thesis: "Bacterial Blight and Curl Virus Disease Detection in Cotton Crops using CNN and CoATNet Classifier"

Bachelors in Engineering (Electronic Engineering)

Mehran University of Engineering & Technology [04/01/2016 – 26/12/2019]

Address: Jamshoro, 76090 Jamshoro (Pakistan)

Website: <https://www.muett.edu.pk/>

Final grade: 3.59 CGPA

DIGITAL SKILLS

Programming Skills

Python / MATLAB / C++ / SQL / Arduino / Raspberry pi / HTML

Technical Skills

IOT: Internet of Things / App development with MIT App Inventor software / Machine Learning / Autodesk Fabrication / PCB DESIGNING / Computer Vision / Web Development + Web Design / Deep Learning

Soft Skills

Organizational and planning skills / Microsoft Office / Good listener and communicator / InkScape / Team-work oriented / Written and Verbal skills / Decision-making / Research Paper Writing

LANGUAGE SKILLS

Mother tongue(s): **Sindhi**

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

[Performance Analysis of Deep Transfer Learning Models for Automated Detection of Cotton Plant Diseases](#)

[2023]

S. Anwar, S. R. Soomro, S. K. Baloch, A. A. Patoli, and A. R. Kolachi, "Performance Analysis of Deep Transfer Learning Models for the Automated Detection of Cotton Plant Diseases", *Eng. Technol. Appl. Sci. Res.*, vol. 13, no. 5, pp. 11561–11567, Oct. 2023.

[Bacterial Blight and Cotton Leaf Curl Virus Detection Using Inception V4 Based CNN Model for Cotton Crops](#)

[2022]

Anwar, S., Kolachi, A.R., Baloch, S.K. and Soomro, S.R., 2022, December. Bacterial Blight and Cotton Leaf Curl Virus Detection Using Inception V4 Based CNN Model for Cotton Crops. In *2022 IEEE 5th International Conference on Image Processing Applications and Systems (IPAS)* (pp. 1-6). IEEE.

[Cotton Leaf Disease Classification using YOLO Deep Learning Framework and Indigenous Dataset](#)

[2023]

A. R. Kolachi, S. R. Soomro, S. K. Baloch, Aamir Ali Patoli and **S. Anwar** (2023). Cotton leaf disease classification using YOLO deep learning framework and indigenous dataset. *Int. J. Systematic Innovation*, 7(7), 80–88. [https://doi.org/10.6977/IJoSI.202309_7\(7\).0005](https://doi.org/10.6977/IJoSI.202309_7(7).0005)

[Bacterial Blight and Curl Virus Disease Detection in Cotton Crops using CNN and CoATNet Classifier](#)

S. Anwar, S. R. Soomro, S. K. Baloch, and A. R. Kolachi, "Bacterial Blight and Curl Virus Disease Detection in Cotton Crops using CNN and CoATNet Classifier," *Maejo International Journal of Science and Technology*, in publishing process.

NETWORKS AND MEMBERSHIPS

Registered engineer with Pakistan Engineering Council (PEC)

REFERENCES

References

Dr. Shoaib Rehman Soomro (Principal Investigator)

Electronic Engineering Department, Mehran University of Engineering and Technology, Pakistan

Website: <https://sites.google.com/view/srsoomro/>

Email: shoaib.soomro@faculty.muett.edu.pk Tel: +923453736486

Dr. Shadi Khan Baloch (Co-Principal Investigator)

Mechatronics Engineering Department, Mehran University of Engineering and Technology, Pakistan

Website: <https://www.muett.edu.pk/>

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Dr. Kamran Taj Pathan (Focal Person NAVTCC)

Chairman Department of Software Engineering Faculty of Engineering & Technology University of Sindh, Pakistan

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