Mitun Kanti Paul

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RESEARCH INTEREST

- **Machine Learning, Deep Learning, Computer Vision and Big Data**

EDUCATION

- **Shahjalal University of Science & Technology(SUST)** — Sylhet, Bangladesh
  Bachelor of Science in Electrical & Electronics Engineering; CGPA: 3.4 out of 4 — *March 2016 - June 2021*
  - **Relevant Courses**: Computer Programming(C, C++), Numerical Analysis, Signals and Linear Systems, Communication Engineering, Microprocessor and Interfacing, Digital Signal Processing, Control System, Linear Algebra, Probability and Statistics

RESEARCH EXPERIENCE

- **V5-Tomato: Tomato detection based on YoloV5**
  Undergraduate Thesis — *February 2021*
  - The study aimed to detect tomato in plants to enable robots to collect fruits and monitor diseases.
  - A dataset of tomato was created by collecting images from farm and labeled using LabelImg.
  - The dataset was trained using the pre-trained YOLOv5 algorithm.
  - Tomato was detected on tomato image dataset with mAP:93%.

PUBLICATIONS

- **Fahad Jubayer, Janibul Alam Soeb, Abu Naser Mojumder, Mitun Kanti Paul, Pranta Barua, Shahidullah Kayshar, Syeda Sabrina Akter, Mizanur Rahman, Amirul Islam, Detection of mold on the food surface using YOLOv5, Current Research in Food Science, Volume 4, 2021, Pages 724-728, ISSN 2665-9271 https://doi.org/10.1016/j.crfs.2021.10.003. (October 2021)**
  - The study aimed to identify different molds that grow on various food surfaces.
  - A dataset of 2050 food images with mold growing on their surfaces was created.
  - The dataset was trained using the pre-trained YOLOv5 algorithm.
  - In comparison to YOLOv3 and YOLOv4, this current YOLOv5 model had better precision, recall, and average precision (AP).

  Contributions: Formal analysis, algorithm development, review and editing.

SKILLS

- **Programming**: Python, SQL, MATLAB, Embedded C, Arduino, C, LaTeX
- **Python Library**: TensorFlow, Keras, scikit-learn, Pandas, numpy, Matplotlib, seaborn
- **Version Control System**: Git
- **PCB Designing tool**: Eagle, KiCad, Altium, Proteus, EasyEDA
- **CAD software**: Fusion 360, SOLIDWORKS, AutoCAD
- **Soft Skills**: Leadership, Event Management

CERTIFICATIONS

- **TensorFlow Developer Specialization** — coursera.org
  DeepLearning.AI/certificate — *December 2020*
  - Learned applied machine learning skills with TensorFlow to build and train powerful models.
  - Built scalable AI-powered applications with TensorFlow.

- **Deep Learning Specialization** — coursera.org
  DeepLearning.AI/certificate — *September 2020*
  - Built neural network architectures such as CNN, RNN, LSTMs, Transformers
  - Learned how to make them better with strategies such as Dropout, BatchNorm, Xavier/He initialization, and more.
  - Real-world case studies such as autonomous driving, sign language reading, music generation, computer vision, speech recognition, and natural language processing.

Training Experience

- **Training Institute for Chemical Industries (TICI)**
  Industrial Training on Electrical Engineering & Instrumentation — February 2020 - March 2020
  - **Electrical & Electronic Engineering:** Electrical Switching & protective devices, Electrical testing & measuring instrument, Transformer, Generators, Motors, Starting and Control of Induction motors, Electrical Power Generation & Control Technique, Substation & Distribution System, Power Plant Starting Procedure, Motor Controlled by AC Drives, PLC Controlled Motor Operation.
  - **Instrumentation & Control Engineering:** Process Instrumentation, Sequential Logic Operation, Programmable Logic Controller (PLC),Distributed Control System(DCS), Factory Automation with SCADA
  - **Mechanical Engineering:** Bearing, Turbine, Machine Alignment.
  - **Industrial Safety & Health.**

Projects

- **PID Controlled Line following Robot** — SUST Mecnovation
  contestant — December 2019
  - An advanced line following robot was built using IR sensor, Ultrasonic Sensor and Arduino.
- **Hand Gesture Mouse**
  Undergraduate Student Project — February 2019
  - The movement of the hand was measured using an accelerometer (IMU) sensor.
  - Arduino was used to connect the IMU to the computer and process movement data.
- **Audio Equalizer**
  Undergraduate Student Project — October 2018
  - Using Operational amplifier bandpass filters were designed.
  - Using potentiometer, the magnitudes of passband filters were controlled.

Organizational Activities

- **Member at SEC Robotics Club**
  Participated in several Line Following Robot(LFR) contests.
- **Event Organizer at SEC EEE Society.**
  Organized Intra-campus Robotics Competitions and Seminars.
- **Member at Penataton Musical Club**
  Organized Several Music Concert in campus.

Standardized Test Scores

- **GRE**: Total: 306, Quantitative: 157, Verbal: 149, Analytical: 2.5
- **IELTS**: Overall: 6.5, Listening: 7.5, Reading: 6, Speaking: 6.5, Writing: 6

Hobbies

- **Reading Non-fiction books, Playing Flute, Running and Listening Music**

Recommendations

MD. Shahid Iqbal	**MD. Janibul Alam Soeb**
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Phone: (+880) 191113338	Phone: (+880) 1916590472
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