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Anuj Chavan

Problem Solver & Final Year Undergrad.

github.com/FortKnoxWasTaken
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Skills

Electronics and Electrical	Analog and Digital Circuits, Electrical Technology, Electronic Devices, Instrumentation, Network Theory, Microcontrollers, Computer Architecture, Signals and Control Systems, Digital Signal Processing
Programming Languages	Python (NumPy, SciPy, Pandas), Java, C++, C, JavaScript
Physics	Engineering Physics, Electromagnetic Engineering, Probability and Stochastic Processes, Waves and Oscillations, Optical Fiber Communication
Communication	Analog and Digital Communication, Information Theory and Coding, Antenna Fundamentals, Computer Networks
Softwares	Git, GitHub, Microsoft Office, Linux, Bash, AutoCAD, MATLAB
Databases	MySQL, SQL, SQLite, MS Excel
Technologies	Networking, Object Oriented Programming, Data Structures and Algorithms, Competitive Coding

Research Experience

Student Researcher - Finger Vein Extraction & Recognition **Jan 2022 — Present**

Electronic System Design, Near Infrared Imaging, Image Processing, Instrument Optimization, Python, MATLAB

- Designed a NIR (near-infrared) camera to allow imaging of hand finger veins using non invasive techniques.
- Created a electronic system to capture NIR images and incorporate NIR image processing.
- Performed image processing using max curvature methods and near-neighbour inflection.
- Further works: Finger Recognition, ML modelling, light variable imaging, statistical analysis.

Student Researcher - Sign Language Recognition **Jan 2021 — Aug 2021**

Python, ML- Deep Learning, OpenCV, TensorFlow, Keras API

- Captured image dataset for ISL and applied Image Processing using OpenCV module for making a custom self-built dataset.
- Created a custom model using ML techniques and optimization of their quantitative performance.
- Achieved an accuracy of 96.5% in recognizing the correct gesture and wrote a technical paper for the same(Selected for conference).
- Created a GUI using pyGUI libraries and performed repetitive learning on test dataset to improve on accuracy.

Student Researcher - Electronic Lie Detector **Oct 2020 — Dec 2020**

Electronic System Design, Proteus 8.4, PCB design, Sensors(Thresholding and manipulation)

- Created a low cost, fairly accurate electronic lie detection system using transistors.
- Designed the circuit and PCB for the system incorporating sensors and software.
- Threshold and bench-marked for nominal use and experimented on standardizing base level.
- Achieved accurate results up to 87% from a dataset of various real life conversations and tests.

Technical Publication

Indian Sign Language Recognition Using MobileNet, IEEE Proceedings, IATMSI-2022 - Accepted Paper for conference **Dec 2022**

Education

Bachelor of Technology in Electronics and Telecommunications Engineering **Aug 2019 — Present**
Sardar Patel Institute of Technology, Mumbai, India **GPA: 9.15/10**

Minor in Computer Engineering **Jan 2021 — Present**
Sardar Patel Institute of Technology, Mumbai, India

Certifications

Java Programming, Duke University on Coursera (Agg. Grade: **92.27%**) **Jun 2020 — Aug 2020**
Total 3 courses on Problem Solving, Data Structures and principles of Software Design in Java.

Python for Everybody Specialization, University of Michigan on Coursera (Agg. Grade: **99.27%**) **May 2020 — Jul 2020**
A group of 5 courses on Basics, Data Structures, Data Processing and Visualisation, Accessing Databases and Web using Python3.

Python Crash Course, Google on Coursera (Agg Grade: **95.5%**) **Jul 2020**
A complete elaborate course on Python skills, Data Structures and Programming.

Extracurricular Activities

Mentoring Juniors in the University (Second Year Students) - 4 Mentees **Aug 2022 — Present**
Participation in E-Yantra Robotics Competition (Upto Phase II) **Sep 2020 — Dec 2020**
Subcommittee Member of Forum of Electronics and Telecommunication Engineers **Aug 2019 — Jun 2020**
Subcommitee Member of SPARK Robotics **Aug 2019 — Mar 2020**