ANIKET FASATE

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EDUCATION

Master of Science in Internet Of Things , Northeastern University, Boston Sep 2023 - Expected April 2025
Activities: Participating in events organized by the Entrepreneurship cell and IEEE.

Bachelor of Electronics and Telecommunication Engineering, SSGMCE, Shegaon Aug 2016 - Aug 2020
Activities:* Finalist in Smart India Hackathon 2019 Hardware,(organized by Government of India).* Chairperson Alumni 2019 and IIM 2019.* Ignited Innovators of India Finalist. * Machar Correspondent and Chief Editor in the Indian Society for Technical Education (ISTE). * Technical team Head ESSA. * In NCC hold the rank of Sargent. * Finalist In State Level Science Competition.

SKILLS

Programming Languages	Python(Django/Flask), C/C++, Embedded C, Robot Operating System, MicroPython, JavaScript, PHP, Matlab, Git, Scripting (Bash), LaTeX, HTML.
Controllers and Processors	Jetson nano, R-Pi, ESP32, ESP8266, AtTiny85, Arduino boards (ATmega328, ATmega2560, Arduino nano), ARM Cortex-M series (STM32), PCB Designing (Proteus, Eagle, EasyEDTA, Kicad), Matlab/ Simulink, Telemetry Viewer,
Software and Tools	Amazon web services, Microsoft Azure, IBM Watson, Arduino IDE, IoT Platforms (Blynk, ThingBoards IBM Watson), Matlab/Simulink, Telemetry Viewer, Python Tools(Anaconda, Pycharm, Pytorch, Docker, NumPY, Tensorflow, Pandas, Matplotlib and Seaborn, sci-kit learn, Keras, PyTorch, NLTK, OpenCV), NS-3, Colloseum
IoT Protocols	HTTP, HTTPS, TCP/IP, UDP, MQTT, I2C, I2S, SPI, CAN, Zigbee, DDS, WebSocket, ESP-NOW, BLE

PROFESSIONAL EXPERIENCE

Project Researcher Feb 2021 - Aug 2023
Indian Institute Of Technology, Bombay *Mumbai, India*

- Site Survey Kit: Engineered in MPU6050 and MPU9250 versions, this kit excels in on-site motion data collection. Achieving high-frequency data acquisition (up to 4kHz accelerometer, 8kHz gyroscope), the handheld device offers real-time insights with graph plotting. Its hosting server capabilities and Over-The-Air updates enhance convenience, ideal for construction and research, providing a portable solution for motion analysis, structural health monitoring, and dynamic behavior research.
- Data Logger: Presenting two versions tailored for diverse monitoring needs. Version 1 integrates DHT22 and LDR sensors, optimizing climate monitoring with real-time user connectivity. Version 2 employs K-type thermocouples for precise Fahrenheit readings, catering to high-temperature environments. Both versions prioritize advanced data analysis, featuring hosting servers for seamless data management.
- Dandi Project: Implementing ESP series microcontrollers, the Dandi Project optimizes structural health monitoring on a 40-meter platform. Utilizing predictive analytics, the device assesses structural integrity. Featuring a user-friendly GUI, OTA updates, and advanced telemetry, this project seamlessly amalgamates IoT capabilities, data analytics, and predictive maintenance for enhanced structural robustness.
- Utilizing ESP32-CAM and YOLOv3, this project employs OpenCV and ESPAsyncWebServer for efficient image processing and web hosting. Through innovative tunneling, users experience dynamic object identification on screens, harmonizing cutting-edge algorithms with ESP32-CAM capabilities for advanced real-time environmental monitoring.
- AI/ML Projects : Engaged in diverse projects, including advanced tasks like object detection and image classification. Additionally, simpler yet impactful projects involve sentiment analysis, spam email detection, and predictive text generation. These applications showcase proficiency in machine learning algorithms, neural networks, and natural language processing for comprehensive data analysis.

IoT and AI/ML trainee Jun 2018 - July 2018
Defence Research and Development Organisation (DRDO) *India*

- Sentimental Analysis: Engineered an intricate sentiment analysis system employing TensorFlow for neural network architecture, Scikit-learn for machine learning algorithms, and NLTK for natural language processing. Implemented a Convolutional Neural Network (CNN) model with tokenization, embedding layers, and the Adam optimizer for precise text analysis. Rigorous dataset handling, preprocessing, and backpropagation were executed. The Graphical User Interface (GUI) elevated the user experience, integrating real-time feedback. This project showcases comprehensive expertise, offering a robust sentiment identification tool with diverse AI/ML libraries.

IoT and AI/ML trainee Jun 2017 - July 2017
Indian Institute and Technology, Kanpur *kanpur, India*

- Autonomous Vehicle Prototype Development: Pioneering an autonomous vehicle, we initiated the project by assembling the vehicle from scratch. IoT sensors, ultrasonic sensors, and ESP32 controllers facilitated data collection. Subsequently, the data underwent meticulous training in MATLAB using backpropagation. The Raspberry Pi, employed for self-training testing, exemplifies robustness in real-world scenarios. This project integrates cutting-edge technologies, showcasing proficiency in sensor fusion, deep learning, and embedded systems, culminating in a comprehensive autonomous vehicle prototype.

PROJECTS

- **Data Logger with Zigbee (Temp, Humidity, and Lux)** (Click here)
- **Single Phase to Three Phase Converter (Smart India Hackathon, 2019 and bachelor's project)(Jan 2023 - May 2023)**(Click here)
- **Real Time Face Detection (Person wearing Mask Or not) (freelancing) Jan 2023 - April 2023** (Click here)
- **Sorting Of Fruits (Research Project Sponsored by SGRC) Nov 2022 - Dec 2022**
- **Agriculture Quadcopter (Sonserd by V-chip PVT, Pune)** (Click here)
- **Smart Tourism using Bluetooth Beacons (July-December 2018)**

CERIFICATES

- **Machine Learning, Data Science and Deep Learning with Python - Udemy**(Link)
- **Python Data Structure - University Of Michigan**(Link)
- **Introduction to AWS IoT - Amazon Web Services**(Link)
- **Programming for Everybody - University Of Michigan**(Link)
- **Learn Machine learning and AI(Including Hands on 3 projects) - EdYoda Digital University**(Link)
- **AWS Fundamentals: Going Cloud-Native - AWS**(Link)
- **Certificate Of Participation - Texas Instruments**(Link)
- **Image Data Augmentation with Keras - Coursera** (Link)
- **Image Denoising Using AutoEncoders in Keras and Python - Coursera** (Link)
- **Neural Network with TensorFlow - Udemy** (Link)
- **Neural Network Visualizer Web App with Python - Coursera** (Link)
- **Custom Prediction Routine on Google AI Platform - Coursera** (Link)
- **Matlab Onramp - MathWorks** (Link)
- **National Cadet Corps 'A' Level Certificate** (Link)