

Shubham Mohapatra

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in shubhammohapatra

Education

- Indiana University, Bloomington

Master of Science in Data Science,

Related Coursework: Cloud Computing, Machine Learning, Introduction to Statistics

Skills: AWS, GCP, GoogleAPIs, Python, MySQL, Octave
- Indiana
- Expected Graduation: June 2023
- Delhi Technological University, New Delhi

Bachelors of Technology in Electrical Engineering, CGPA(8.0),

Related Coursework: Electronic Digital Circuits, Analog Electronics, Filters, Information Technology, CS Fundamentals, Digital Electronics

Skills: MATLAB, EagleCAD, Altium, Arduino IDE, RaspberryPi OS, PIC programming
- Delhi, India
- Graduated: May 2018

Work Experience

- Mushin Innovation Labs Pvt. Ltd.

Chief Solution Architect, Director

Head Software Developer and Solution Architect of various factory automation projects. Instrumental in ground-up development of a novel IoT gateway technology.

Developed a novel sensor monitoring firmware using python on RaspberryPi and setup an aws MQTT broker for data movement

Designed live sensor data dashboard using VueJS, PHP Laravel and MySQL with upto 0.8s delay

Fabricated a pilot factory auditing software using MERN stack catering to MSIL and Honda compliance norms under 6 months

Designed cloud architecture for 10+ web applications using Elastic Load Balancers and EC2 web servers for 90% availability

Integrated Google Maps API for live tracking of 100+ assets and Google Sheets API for real time calculation and generation of reports
- Delhi, India
- June 2020 - August 2021
- Team Computers Pvt. Ltd.

Solution Architect

Crucial in development of various cloud based web applications pertaining to healthcare and manufacturing industries

Migrated existing WHO health based application with 1000+ records to AWS and a Disaster Recovery setup with RTO of upto 1min

Created a CI/CD pipeline using Git, Jenkins and Ansible and an AWS implementation using CodeCommit, CodeDeploy and CodePipeline

Mentored the development of a ChatBot using Amazon Lex for Telecom Regulatory Authority supporting upto 100+ utterances

Designed the architecture for 50+ highly scalable web applications using docker containers deployed on Nginx with reverse proxy
- Delhi, India
- July 2018 - April 2020

Projects

- Pneumonia Detector Web App

Code

A web application built using ReactJS and FastAPI to decode and send chest x-ray images to a tensorflow keras model saved on AWS S3. The model is a 4 layer CNN model with 97% accuracy tested and validated with more than 5000 inputs
- MHC Class-1 Binding Site Predictor

Link Code

A matrix based methodology python implementation to calculate potential binding sites for a virus on 47 MHC Class-1 Alleles with a threshold setting of upto 10%. The matrices were imported via webscrapping and app was developed using NextJS and Python FastAPI
- Covid-19 Vaccine Notifier

Link Code

A simple website that registers users for notifications on coronavirus vaccine slots using ReactJS, ExpressJS, MongoDB, Python and Co-win API which enabled 1,000+ registered users to book about 1,500+ vaccine slots seamlessly

Publications

- Segmentation using Support Vector Machines, ICACCP 2019, Sikkim

Link

This paper introduces an algorithm for segmentation of a particular class using the decision boundary hyperplane of a linear SVM model. The results are then compared to the results of Logistic Regression for all labels.
- Implementation of a 2 Wheel Self-Balanced Robot, ICACCP 2019, Sikkim

Link

This paper studies a CAD based methodology in designing the robot with set physical properties and accordingly the calculation of the torque, speed, direction of motion requirements to balance the robot is done. The robot is subjected to an environment similar to a real environment with gravitational, friction and normal forces acting on it. The simulations were done using MATLAB simscape multibody.

Skills and Expertise

- Languages: - Python, C, C++, JavaScript, R, MATLAB, Octave

Certifications: - AWS Cloud Practitioner, Bioinformatics(UCSD), Machine Learning(IBM), Python for Researchers(HarvardX)

Frameworks: - MERN, MEAN, Next.js, Laravel-VueJS, flask, fastapi, AWS, docker, kubernetees, tensorflow, fastai

Databases - MySQL, SQL, MongoDB, PostgreSQL, AWS RDS

Other Interests

- Volunteering, Music, Football and Gaming