

Shubham Mohapatra

+1 812 606 7637 • shmoha@iu.edu • shubhpatr.github.io • shubhpatr
in shubhammohapatra

Education

- Indiana University, Bloomington** Indiana
 - Master of Science in Data Science, Current GPA(4.0), Expected Graduation: June 2023
 - Courses:** Cloud Computing, Machine Learning, Introduction to Statistics
- Delhi Technological University, New Delhi** Delhi, India
 - Bachelors of Technology in Electrical Engineering, CGPA(8.0), Graduated: May 2018
 - Courses:** Electronic Digital Circuits, Information Technology, CS Fundamentals, Digital Electronics

Work Experience

- Mushin Innovation Labs Pvt. Ltd.** Delhi, India
 - Chief Solution Architect, Director** June 2020 - August 2021
 - 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 sheets API for generating live reports.
- Team Computers Pvt. Ltd.** Delhi, India
 - Solution Architect** July 2018 - April 2020
 - 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 DR setup with RTO of upto 1min
 - Created a CI/CD pipeline using Git, Jenkins and Ansible and an aws native solution using AWS 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

Projects

- Map Reduce Search Engine**
 - [Link Code](#)
 - Multifaceted a robot script that downloads the around 1000+ txt files from Project Guetenberg and indexes the files
 - Constructed a web UI for searching in $\approx 1s$, and google functions that run Map Reduce jobs on the multitude of files in bucket
- MHC Class-1 Binding Site Predictor**
 - [Link Code](#)
 - Calculations of virus binding sites using a probability matrix based on DNA sequences on 47 MHC Alleles
 - The matrices were imported via webscrapping and app was developed using NextJS and Python FastAPI
- Covid-19 Vaccine Notifier**
 - [Link Code](#)
 - Deployed a simple website that registers users for notifications on coronavirus vaccine slots using MERN, Python and Co-win API
 - Enabled 1,000+ registered users to book about 1,500+ vaccine slots seamlessly

Publications

- Segmentation using Support Vector Machines, ICACCP 2019, Sikkim**
 - [Link](#)
 - Formulated a paper that 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](#)
 - Designed a 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 in a simulated physical environment.

Skills

- Languages:** - Python, C, C++, JavaScript, R, MATLAB, Octave
- Certifications:** - AWS Cloud Practitioner, Bioinformatics(UCSD), Machine Learning(IBM), Python for Researchers(HarvardX)
- Frameworks:** - ReactJS, Node.js, Next.js, Laravel-VueJS, flask, fastapi, AWS, docker, kubernetes, tensorflow, fastai
- Databases** - MySQL, SQL, MongoDB, PostgreSQL, AWS RDS

Extracurricular Activities

- Technical Content Producer**, CS Club, Indiana University, Bloomington
 - Overall head of the technical blogs, workshops and hackathons organized for the CS and DS department of IUB
- Volunteer, Math Tutor**, Simadri Ashram, Bhubaneswar, India
 - Tutored 30+ high-school students in Mathematics and English for Indian CBSE board examinations
 - Volunteered in planning and setup of new hostels and classrooms for the tribal students