

Sumedh Patkar

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Education

Savitribai Phule Pune University, Pune, India

Bachelor of Engineering, Computer Engineering

Aug. 2016 - May 2020

CGPA: 9.24/10. First Class with Distinction.

Relevant Coursework: Algorithms, Data Structures, Database Management Systems, Data Mining and Warehousing, Operating Systems, Embedded Systems and Internet of Things, Distributed Systems, High Performance Computing

Experience

Siemens Digital Industries Software, Pune, India

Software Engineer - Associate

Sept. 2020 - Present

- Developed capability for closed-loop simulation of Matlab (Simulink) based models in Teamcenter
- Enhanced accessibility of Active workspace web app to comply with W3C accessibility standards, thus making the app more inclusive for all people
- R&D Team: Researched on usage of CLIPS, a rule-based programming language for developing expert systems, to write business rules for a large FMCG client

WhileOne Techsoft, Pune, India

Software Consultant

Nov. 2020 - Present

- Developed Android in cloud containers for 3D Game simulation on cloud servers of a large semiconductor client
- Developed web based visualization tool for analysis of server CPU performance using graphs
- Captured results in JSON format and published to client's data management framework using API endpoints through Python
- Co-conducted interviews for hiring software engineering interns

Marvell Semiconductor, Pune, India

Software Engineering Intern

Jul. 2019 - Sept. 2019 & Mar. 2020 - Jun. 2020

- Created FACTs: A web based Data visualization tool for the application benchmarking team
- Added various graphs like bar graphs, multi-line graphs, heatmaps, and tables to compare results of various benchmark runs, with filtering and sorting ability
- Added 'Reports' - an interface for exporting tailored data as XLSX files using several filters.
- Researched on improving the performance of data retrieval and processing. Achieved 25x speed improvement

Espressif Systems, Pune, India

Project Intern

Aug. 2018 - Mar. 2019

- Created Bucky - A voice controlled, semi-autonomous, object delivery robot
- Used Google Dialogflow NLU platform to parse voice instructions given to the robot through ESP-LyraT microcontroller
- Wrote the code for motion control and obstacle detection using the ESP-IDF framework on the ESP-32 microcontroller
- Designed and implemented the algorithm for Localization, mapping and navigation in a static mock-arena during a hackathon conducted by PICT ACM Student Chapter

Projects

FoodChain - A blockchain based, IoT powered solution for supply chain management in Agriculture

- Implemented the blockchain, its access rules and transaction functions using Hyperledger Composer
- Used NIR micro-spectrometer SCiO to record freshness value of fruits and vegetables at every stage in the supply chain
- Generated GS1 compliant barcodes at each stage in the chain using Javascript, thus making the system globally scalable
- Created the 'tracing module' using which stakeholders can scan the QR codes on their food packets to view the farm-to-fork chain through which the product has travelled, thus ensuring traceability

End-to-End Lung Cancer diagnosis using 3D Convolutional Neural Networks and Explainable AI

- Designed a 3D Faster R-CNN for nodule detection which achieved high accuracy of 92.88%
- Implemented backend in Django REST Framework to fetch DICOM images, perform preprocessing and get related metadata from PostgreSQL database
- Created a unified interface for radiologists to view CT Scans, annotate malignant nodules and view malignancy scores
- Published a research paper at International Journal of Computer Applications (IJCA) [\[link\]](#)

Achievements

- University Topper for Engineering Mathematics I, II and III. Scored 100/100 on all 3.
- University Topper for Engineering Graphics (99/100)
- Ranked 6th (Top 1%) amongst 900+ higher secondary school students at Fergusson Junior College Pune
- Batch Topper and Best Outgoing Student, Nagarvala School Pune
- Completed DELE A1 certification in Spanish (2021)

Technical Skills

Languages: C, Python, Javascript, Java, C++, HTML, CSS, SQL

Frameworks/Technologies: Django, Flask, pandas, MySQL, PostgreSQL, MongoDB, Node.js, Plotly.js, Bootstrap4, jQuery, multiprocessing in python, OpenMP

Other skills: Markdown, Linux terminal, vim, git

Leadership

PICT ACM Student Chapter

Workshop head

Aug. 2018 – Jul. 2019

- Overlooked management of workshops held by PASC throughout the year

Workshop lead coordinator

Jun. 2018 – Aug. 2018

- Successfully organized an Ethical hacking workshop conducted by Cybercure Technologies Pvt. Ltd., Delhi
- In charge of finalizing the MoU, negotiations and budgeting, marketing, and publicity of the 2-day event
- Led a team of 6 sophomores and 8 juniors in managing the publicity and hospitality of the event
- It was attended by 100+ students from different colleges of Pune