

MANDAVA JAIWANTH

Computer Science Undergraduate

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Jaiwanth101

PROJECTS/EXPERIENCE

Data Analytics on Solar Energy via Alexa Skills

(Guide: Prof. Vishal Garg, Jan'21 - Present)

- Created an Alexa skill to analyse solar energy data of IIIT-H.
- Created a set of useful commands for users help them manage their panels.
- Analyse the data and alert the users based on any error that has occurred in the panel data.
- Languages Used** : Python, ASK API, OneM2M.

Identification and Visualization of Mosquito Corridor Paths

(Guide: Prof. Ramesh Loganathan, Jan'20 - April'20)

- Objective** : Analyse the data obtained from the micro-weather stations and **identify the corridor paths**. Also, develop a web-app to maintain the same.
- Analyse the reason for the formation of the corridor path and **suggest a suitable eradication technique**.
- A team of 4 have worked on this project in which my part was mostly developing the functionalities in the backend.
- Languages/Frameworks/APIs Used** : MERN stack, Mapbox-GL Js(To render the map).

Amusement Park Management

- Designed and developed a database system** to assist management and visitors of a typical amusement park. The model allows for an observer to get status reports and for Admins to manage the information.
- The ER model ensures validity of information. The **relational model** is normalised up to **3NF**.
- The system features various functionalities (via a terminal based UI) viz., fetch reports on entities like rides/shops, hire, update or fire an employee, etc. for managers/staff; and functionalities like issue a card (for payments), pay for rides/at shops, etc. for visitors.
- Languages Used** : Mysql , python.

Digital Image Processing

- Implemented a pipeline that reduces time and energy costs for uploading and downloading images for applying certain transformations
- Reduces transfer costs by 100 times and were able to regenerate the outputs with PSNR = 40 [**Python,Pytorch,**]

IoT Device Controlling lights during presentation

- Device to sense light whenever a speaker is presenting a slideshow and automatically dims/turn-offs light in the classroom.
- This data is sent to a OneM2M common server from the micro-controller itself for research purposes.
- ToolsHardware** : Arduino UNO, OneM2M,ESP32 Micro-controller, ESP32 Camera, LDR.

OTHER PROJECTS

- Modification to xv6 OS** - Modified MIT's educational OS xv6 by implementing various standard scheduling algorithm like FCFS, MLFQ, PBS.
- Linux Shell** - Developed a bash-like shell in C, utilizing Linux system calls with key features such as built-ins, piping, redirection, background process, signal handling, job management and a simplified version of cronjob.

EDUCATION

International Institute Of Information Technology, Hyderabad

B.Tech in Computer Science and Engineering

July 2018 - Present GPA : 8.21/10.0

ACHIEVEMENTS

- Secured **4th Rank** in Regional Mathematics Olympiad(**RMO**) Organised by Homibhabha Centre for Science Education(Telangana Region 2015-2016).
- Secured **18A** in AMTI Olympiad in sub-junior level(2013)

COURSEWORK

- Data Structures and Algorithms
- Design and Analysis of Software Systems
- Introduction to Software Systems
- Algorithm Analysis and Design
- Computer Systems Engineering (Operating Systems)
- Machine, data and learning
- Introduction to Quantum Information and Computation
- Computer Systems Organization
- Digital Image Processing
- Embedded Systems Workshop
- Probability and Statistics
- Linear Algebra

SKILLS

- Languages Scripting**: C, C++, Python, Javascript.
- Database Tools**: Mysql, MongoDB.
- Tools frameworks** : Nodejs, Expressjs, Reactjs, Git.