Mukund Yadav

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Education

BS in Electrical and Electronics Engineering, *Purdue School of Engineering and Technology* Aug 2018 – May 2022
Relevant Courses: Data Structures (Trees, Hash Maps, Graphs, Linked Lists, Stacks, Queues).
Biometrics programming using Machine Learning/Neural Networks.
Capstone: Industrial Internet of Things sensor interface design for industry energy management.

Experience

Voice Assistance Research, *UROP | Purdue School of Engineering and Technology* Aug 2021 – Dec 2021
- Developed a **voice assistant** with **improved word recognition** using Python.
- Created a **neural network** where the input would be the words said by the user as a string using **pyttsx3** and the output would be the best-matched word from a dataset with frequent medical terms.
- Revamped the pre-existing code to make it more **logical, readable and scalable**.
- Allows users to verbally ask about the medications they need and the VA would say it back to them.

Full stack developer, *MURI | Purdue School of Engineering and Technology* May 2021 – Aug 2021
- **Created a web application** for the Grand Marble Map of Rome project.
- Developed the backend using **Django-Python**.
- Used **SQLite3 as the database** during development stage which would keep 3D models of the map of Rome as the data.
- **Migrated the database from SQLite3 to RDS on AWS** during the production stage and **created a lambda function script** that would interact with the database and the application.
- Deployed application on **AWS** by creating an **EC2 instance** with **nginx** and **gunicorn.**

Head of Communications, *Team Vyadh | Students for Exploration and Development of Space* Mar 2019 – Jul 2020
- **Engineered a rover** that would compete in University Rover Challenge, 2020.
- Developed a **communication system** called GCS(Geographical Communication System) that allowed the team to interact and monitor the rover using **node.js** and **hosted it on a local Linux server.**
- Integrated the **Arduino/MATLAB/Python** codes **using ROS**, responsible for rover operation.
- **Lead and managed** a sub-team of three freshmen, onboarded and mentored them about the system/project.
- Qualified as **one of 32 teams out of 500** for URC, 2020.

Projects

Baseball Stats Analysis Model, *Python/SQL* Apr 2022 – May 2022
- Developed a model using Python that would **fetch baseball stats data in JSON format from an API.**
- **Developed the algorithm** to **flatten the heavily nested data** and feed it to a **sqlite table using the pandas library**.
- User could pass the game ID and the path to it, and then they would be **able to run SQL queries** through the terminal and analyze the data.

Face Recognition Model, *ML/Python* Feb 2022 – May 2022
- Developed a face recognition system using **TensorFlow.**
- **Read the data using CV2 and cleaned it** for training and testing the model.
- Created a model using **tflearn** and **convolutional neural network** using **DNN** as the model class
- **Visualized** the result using **matlplotlib** and the model had **99% accuracy.**

House Value Predictor, *ML/Python* Dec 2021 – Jan 2022
- Created a Project that could **predict the value of a house** from a given dataset using **Pandas and Scikit-learn.**
- **Plotted and visualized** the data using **Matplotlib.**
- The model had a **mean square error of 1.411**

Stock Value Predictor, *ML/Neural Networks* Jan 2020 – May 2020
- Programmed a prediction project in **Python that used recurrent neural networks**.
- Predicted how a **stock value would change using Keras.**
- Utilized real-world data to **train the recurrent neural network**.
- Obtained a plot of the model's results using **matlplotlib.**

Skills

Linux | **AWS** | **Git** | **Machine Learning** *(Scikit-learn | TensorFlow | Keras | Numpy | Pandas | Understand/implement ML algorithms)*

Front end development *(ReactJS | TypeScript | HTML, CSS, SASS, Bootstrap.)* | **Back end development** *(Django | Node.js)*

Programming Languages *(Python | Javascript | C/C++ | MySQL | R)*

Software/Hardware *(Bash shell | Vim | MATLAB | ROS | Arduino | Raspberry Pi | Multisim | EAGLE.)*

Non Technical *(Punctuality | Multi-linguistic | Time Management | Teamwork | Leadership)*