Richanshu Jha

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Skills

Languages: Python, JavaScript, C/C++, Java, R, PHP, HTML, CSS
Full-Stack Technologies: jQuery, Flask, NodeJS, ExpressJS, Angular, React, Bootstrap, AJAX, Socket.io, REST APIs
Data and Machine Learning: MongoDB, MySQL, JSON, OpenCV, PIL, Tensorflow, Keras, PyTorch, NLTK
Cloud Technologies: AWS API Gateway, Lambda, Docker, S3, Athena, QuickSight, DynamoDB, EC2, Sagemaker

Experience

New York University   January 2021 - Current
Teaching Assistant - Artificial Intelligence   New York, NY

Aegean AI   July 2020 - August 2020
Full Stack Software Engineering Intern (Cloud, ML)   Parsippany, NJ
- Designed the **Cloud** architecture of a serverless web-app academics utilizing **AWS Lambda**, **API Gateway**, **S3**
- Led the full-stack development of the web application using **HTML**, **CSS**, **JavaScript, jQuery**, **Python**, **DynamoDB**
- Operationalized Machine Learning data pipelines over the **AWS Cloud** using **EC2**, **Docker**, **Sagemaker**, **PyTorch**

ValueLabs   January 2019 - April 2019
Software Development Intern   Hyderabad, India
- Developed front-end modules using **HTML**, **CSS**, **jQuery**, **React** for an insurance aggregation platform
- Implemented back-end features using Java; Fixed a 2 year standing critical data-flow error affecting 40% user flows
- Built **Javascript** extensions to the **JQuery** UI library for the platform to fix long-standing cross-platform issues

Hexagon Geospatial   June 2018 - July 2018
Software Engineering (Machine Learning) Intern   Hyderabad, India
- Designed, tested, and optimized convolutional machine Learning models using **Tensorflow** with **Keras**
- Automated the data extraction pipeline to increase data generation rate from 60 to 1200 data-points/hour using **Python**, **Javascript**, **HTML**, **CSS, Google Maps APIs** and tools such as **OpenCV**, **PIL**
- Created a context-sensitive HR chatbot for the helpdesk using **Python**, **React**, **Flask**, **Tensorflow, Keras**, **MongoDB**
- Built a custom PDF Parsing library with **Python** to automate the data extraction for the HR chatbot

Projects

Restaurant seat booking and ordering platform   **HTML, CSS, Javascript, PHP, MySQL, AJAX**
- A seamless web application that allows users to reserve restaurant seats with floor-plan based seat selection.

Surface type classification with continual machine learning   **Python, Pytorch, Pandas, Numpy**
- Analyzed sensor data from a mobile robot and trained a ML model to classify the type of surface in real-time
- Implemented elastic weight consolidation using **PyTorch** for lifelong learning, increasing accuracy by 25%

COVID Controlled entry web-app   **Python, NodeJS, ExpressJS, MongoDB, Heroku, HTML, CSS, jQuery**
- A single page web-app allowing users to request and receive controlled entry into workspaces
- Constructed scheduling algorithms to ensure equal opportunity for each user while also allowing cancellations.

Reddit user-subreddit affiliation classifier   **Python, PyTorch, NLTK, Flask, HTML, CSS, Javascript,**
- Built a classifier that predicted user affiliations to mutually exclusive subreddits using Natural Language processing
- Optimized the model and created an interactive single page web-application that showed classification results

Car Rental single page web application   **MongoDB, ExpressJS, AngularJS, NodeJS, HTML, CSS**
- A **MEAN stack** single page web application allowing users to sign in, view a dashboard and apply to rent vehicles

3D Battleships Game   **Python, Tkinter, PyGame, OpenGL**
- Recreated the classic board game 'Battleships' in **Python** using **OpenGL** wrappers. Optimized game-loop for 60 FPS

Reconstruction of human skull from MRI data   **Python, OpenCV, OpenGL, Snake Segmentation**
- A multithreaded python program that segments MRI images and displays a 3D slicable view of the skull real-time.

Virtual whiteboard and background masker   **Python, OpenGL, OpenCV**
- A **Python** application that creates a virtual whiteboard that uses a point light source from the webcam as cursor
- Created a module that takes video input from the program and masks out the background from the video

Education

New York University   September 2019 - May 2021
Masters in Computer Science (GPA: 3.70)   New York, NY

Manipal University Jaipur   August 2015 - May 2019
Bachelors in Computer Science (GPA: 8.84/10)   Jaipur, India