YASH SHREESH DUBEY

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Education

Master of Science, Computer Science — *Aug 2018 - May 2020*
The University of Texas at Arlington — **GPA: 3.42**

- Specializing in ***Intelligent Systems (Artificial Intelligence) and Database***.
- Coursework: Artificial Intelligence I, Machine Learning, Computer Vision, Neural Networks, Data Mining, Big Data Analytics, Data Analysis & Modeling Techniques, Design & Analysis of Algorithms, Software Testing, Distributed Systems.

Bachelor of Engineering, Computer Science and Engineering — *Jun 2013 - May 2017*
RTM Nagpur University

Work Experience

Machine Learning Research Intern, The University of Texas at Arlington — *Jul 2020 - Present*

- Pursuing research to solve complex computer vision problems like "3D Hand Pose Estimation" and "Assessing Cognitive skills in Children through Performance in Physical and Computer-based Tasks".
- Developing an algorithm for the depth estimation task used to generate a 3D orientation of the given input hand shape using PyTorch.
- Analyzed large datasets and worked with raw sensor data by performing data collection, data annotation and data preprocessing tasks.

Software Developer, *LeanQuality Solutions (I) Pvt. Ltd.* — *Jun 2017 – Jul 2018*

- Designed and Developed various web applications using a variety of languages, frameworks, and databases such as ReactJS, Python, Java, NodeJS, Django, Spring Boot and MySQL or MongoDB.
- Collaborated with a team of experts to design and develop various SaaS-based E-commerce, Healthcare and Banking & Finance applications.
- Overhauled the client's website by regularly maintaining and enhancing code using best software engineering practices and upgraded existing design using material design component.
- Reduced the API response time by 35-45% by optimizing database and implementing proper caching configurations.
- Modelled extensive test coverage for all new features which reduced customer complaints by 24%.

Project Experience

Scream - Social Media App *[React.js, Express.js, Node.js, Firebase]* — *Feb 2020 – May 2020*

- Designed, developed and deployed a full-stack application for a fully functioning social media application using ***React.js*** and ***Material-UI*** at the front-end with ***Redux*** to manage an application-wide state for all the components to fetch and send data to.
- Implemented the back-end using ***Node.js*** and ***Express.js*** to create a ***REST API Server***. The user login and authentication, image uploads, notifications are stored and managed using Firebase's ***Cloud Firestore***.

Chat Application *[React.js, GraphQL, Node.js, MySQL]* — *Dec 2019 – Mar 2020*

- Created a Real-Time Web-based Chat Application using React.js and Apollo Client at the front-end.
- The back-end was executed using Node.js, Apollo Server to configure a GraphQL API. The user registration, login and authentication, chats are stored and managed using MySQL server in combination with the Sequelize ORM.

Monocular Depth Estimation *[Python, Tensorflow]* — *Oct 2019 – Jan 2020*

- Engineered an ***Encoder-Decoder style CNN architecture*** to create a supervised-learning model; that took as an input a Single RGB image taken from ***a Monocular Source*** and generate a ***Representation of its Spatial Structure*** to give a ***Depth Map*** as an output with an accuracy of ***92.93%***.

Self-Driving Car *[Python, PyTorch, Kivy]* — *May 2019 – July 2019*

- Built a ***Q-learning model*** over a ***4-Layered Deep Neural Network*** architecture to implement a Modelled Version of a Self- Driving Car that can successfully navigate itself in an environment.
- Concepts implemented to achieve this were ***Reinforcement Learning, Experience Replay, Action Selection Policies***.

Movie Recommender System *[Python, React.js, Django, NLTK, Scikit-learn]* — *Oct 2018 – Jan 2019*

- Implemented a Web Application for a ***Content-Based Recommender System*** with React.js that computes a pair-wise similarity for all the movies taken from the ***IMDb's Top 250 Movies*** data set based on the lead actors and actresses, the director, the plot of the movie and the genres to which the movie belongs to.
- It then recommends the Top 10 movies based on the ***Cosine Similarity*** scores calculated from the ***Count Vectorizer***.

Skills

Programming Languages: Python, Java, JavaScript, SQL (MySQL, PostgreSQL), NoSQL (MongoDB), R, C/C++, HTML/CSS.
Libraries & Frameworks: React.js, Express.js, Node.js, GraphQL, Spring Boot, Django, Flask, Firebase, REST, Spark, Hadoop, Git, TensorFlow, PyTorch, Numpy, Pandas, Scikit-learn, Matplotlib, Scipy, OpenCV.
Cloud Platforms: IBM Cloud, Microsoft Azure, Amazon Web Services (AWS) (SageMaker, S3, EC2), Google Cloud Platform (GCP).
Hard Skills: Data Analysis, Data Visualization, Shell Scripting, Probability & Statistics, Data Structures & Algorithms, Web Development.
Soft Skills: Teamwork, Detail Oriented, Adaptability, Problem-solving, Communication, Active Learning, Collaborative.

Research Paper Published

- ***Topic Detection by Clustering and Text Mining:*** International Research Journal of Engineering and Technology, Volume 4, Issue 3, March 2017.

Certifications & Awards

- Completed a 5 Course ***Specialization in Deep Learning*** taught by ***Prof. Andrew Ng*** offered by ***deeplearning.ai***.
- Completed certification courses on: "***Artificial Intelligence A-Z: Learn how to build an AI***"(Udemy), "***Machine Learning A-Z: Hands-on Python & R in Data Science***" (Udemy).
- Secured **1st position** in "***Technobuzz***" (A national level coding competition).