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 Python, Java, Django, Spring Boot, React.js 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

Texas Hamburger Co. Admin API *[Java, Spring Boot, Kafka, Docker, MongoDB, MySQL]* *Dec 2020 – Feb 2021*
- A fully functioning and well-documented *microservice architecture-based REST API* designed and developed in *Java using Spring Boot* to manage the administrative tasks for locations, menu, and reservations for a restaurant built on top of a *MongoDB* database with necessary security infrastructure using *Spring Security with Role-based Authentication*.
- Implemented *Kafka* to capture and store the execution details of API calls fetched from the *Spring HandlerInterceptor* interface into a *MySQL* database.
- Executed *pagination* capabilities for all GET requests using *Spring HATEOAS*.

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 and Action Selection Policies*.

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, Kafka, NLTK, ggplot2, mlr, dplyr, tidyr.
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*.
- Secured **1st position** in "*Technobuzz*" (A national level coding competition).