FENIL DOSHI

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EDUCATION

M.S (Computer Science) University of Massachusetts, Amherst [CGPA: **4.0/4.0**] *Expected: Dec 22*
(Courses: Systems for Data Science, Advanced Algorithms, Intelligent Visual Computing, Advanced Machine Learning, etc.)
B.E. (Computer Engineering) D.J. Sanghvi College of Engineering, Mumbai University [CGPA**: 9.71/10**] *Oct. 2020*

EXPERIENCE

1. Full Stack Intern, Unity Technologies: *May 2021 – Aug. 2021*
- Deployed a cron job on GCP using *Golang* and *NATS* that periodically queries *Bigtable* to compute the inactive advertisement placement targets set by game developers that do not generate revenue. The service publishes the data to the subscriber.
- Programmed the subscriber component using *Javascript* that deletes the targets from *MongoDB* and *Kafka* databases.
- Reduced the run of the service from 9 days to 6 hours by using multithreading and efficient data retrieval.
- Decreased the storage and processing costs by $350K every year by deleting around 1.2M inactive targets every month.

2. Computer Vision Intern, Clutterbot: *Jun. 2020 – Dec. 2020*
- Worked on monocular and stereo depth estimation from images using Deep learning on embedded systems.
- Implemented disparity estimation network and optimized it to work in real-time on a toy-collecting robot.
- Experimented the model on a custom dataset for indoor household and obtained 94% accuracy while processing at 30 FPS.

3. Computer Vision Intern, Fusion Engineering: *Jun. 2019 - Aug. 2019*
- Created a model to convert sheet music to human-readable format by annotating musical symbols based on their positions (Optical Music Recognition). Also, added camera-noise to the DeepScores dataset to reflect real-world data.
- Recognized notes and their positions corresponding to clefs and staff lines using object detection and image processing.

4. Software Developer Intern, Speridian Technologies: *Jun. 2018 - Aug. 2018*
- Developed generalized customizable *React.js* components that can be used across projects.
- Created webpages for tracking the status of products using barcodes and developed a production management system.

5. Software Developer Intern, Symphony: *Oct. 2017 - Jun. 2018*
- Built a chatbot for mobile application using *Dialogflow*, *Node.js* and *Firebase*, which was voted as one of the most useful features when Symphony won the People's Choice award at Rice Business Plan Competition,Texas. It recommends songs to the user based on interests, trends, activity, mood and also provides industry updates; conducts music quizzes, etc.

SKILLS

Programming Languages: Java, Python, Golang, C, C++
Web (Frontend): HTML, JavaScript, React.js, Redux
Web (Backend): Django, Node.js, PHP, GraphQL, Flask
Database: MySQL, PostgreSQL, Kafka, MongoDB, Firebase
Cloud/Distributed Processing: Google Cloud, Spark, Hadoop
Libraries: PyTorch, TensorFlow, OpenCV, seaborn, scikit-learn

PROJECTS

1. Stock Trainer: *(Django Rest Framework, HTML, Chart.js, Javascript, Python, Keras, SQLite, NLTK, Git)*
- Created a web application that provides detailed analysis of companies (news, statistics, stock indicators, sentiment analysis on Twitter data, Google trends, etc.) & also captures the underlying patterns in its stock price using a trained neural network.
- Developed an interface that allows users to trade and manage their investments with virtual money at real-time prices.

2. Map Reduce System: *(Java, Socket programming, Multi Processing, Fault Tolerance, RMI, Apache Spark, Git)*
- Developed a fault-tolerant system similar to Hadoop, that can run arbitrary user-defined Map-Reduce programs efficiently
- Implemented parallel processing and inter-process communication using sockets.

3. Prodigal Website: *(Web Development, HTML, Javascript, React.js, Redux, Node.js, REST API, Git)*
- As a freelancer, developed and deployed the Prodigal website using React and Node.js (https://www.prodigaltech.com/).

RESEARCH

- Normalizing Text using Language Modelling based on Phonetics and String Similarity (arXiv: 2006.14116)
- Stance Detection using Transformer Architectures and Temporal Convolutional Networks (ISSN: 2194-5357)
- Image Modification with Text using Generative Adversarial Networks (DOI: 10.7753/IJCATR0911.1001)

CO-CURRICULAR ACTIVITIES

1. Web Developer and Mentor, DJ Unicode: (Open Source Organization) *Sep. 2017 - Sep. 2020*
- Created a Book Exchange Portal for the college department, which facilitates the exchange of books amongst students.
- Mentored a team of 30+ juniors over the course of two years and headed the development of a canteen-based Web and mobile application to ease the ordering system at the college canteen.

2. Technical Head, DJSCE CodeStars: (Competitive Programming Committee) *Oct. 2018 - Sep. 2020*
- Conducted lectures on Data Structures and Algorithms and formulated problems for college-level coding competitions.