Abhi **Dhir**

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Education

University of Texas at Austin   *GPA: 3.92*
Pursuing B.S. in Computer Science and Mathematics   *Aug. 2018 - Exp. May 2022*
- Relevant Coursework: Neural Networks, AI, Data Mining, Software Engineering, Data Structures, Stochastic Processes

Work Experience

Atlassian   *San Francisco, CA*
Software Development Intern   *May. 2020 - Aug. 2020*
- Built architecture of end-to-end notification service from scratch using AWS SQS, and Lambdas
- Provided customers with automated notifications via email and a slack bot for events they had subscribed to
- Created fully-automated CI/CD through bitbucket pipelines with unit-testing, linting, and deployment into various environments

NCR   *Dallas, TX*
Software Development Intern   *May. 2019 - Aug. 2019*
- Rewrote legacy back-end API of application (Aloha) used by thousands of restaurant managers across the US
- Upgraded API to .NET Core from .NET Framework, and deployed application to Linux Docker running in Azure for better performance
- Ran automated tests using Gatling on API calls such as logging in and executing stored procedures on restaurant databases

HomeAway   *Austin, TX*
Data Science Intern   *Jan. 2019 - Jul. 2019*
- Contributed to team of full time employees with data prep and sequence to a sequence machine learning model
- Annotated data and worked with text-based natural language processing

Projects

Predicting Stocks using Twitter Sentiments | *Python (scikit-learn, pandas, nltk), Twitter API*   *Sep. 2019*
- Utilized sentiment analysis from thousands of tweets to correlate the public opinion of a company with their stock prices
- Used machine learning algorithms to predict day-to-day changes in stocks taking into account tweet information and stock variance

Portfolio Website | *React JS, Bootstrap, Github API*   *Aug. 2019*
- Personal portfolio website that I created using React and Bootstrap
- Includes API calls to github that dynamically generates a display of my pinned repositories

Huffman Compression GUI and Backend | *Java, Swing*   *May. 2019*
- Bit level encoding algorithm with the ability to compress all file types
- Implements a Huffman Tree and a priority queue

Measuring Repetition in Speeches using LZW | *Python, RStudio*   *May. 2018*
- Analysis of how repetition has increased over time in US presidential speeches
- Implemented the Lempel-Ziv-Welch compression algorithm in order to measure repition of words and phrases

Publications

A Pipeline for Vision-Based On-Orbit Proximity Operations Using Deep Learning and Synthetic Imagery   *Mar. 2021*
IEEE Aerospace Conference 2021

Real-Time, Flight-Ready, Non-Cooperative Spacecraft Pose Estimation Using Monocular Imagery   *Feb. 2021*
AAS Space Flight Mechanics Meeting 2021

Skills

Programming Languages
- Python (numpy, pytorch, tensorflow, scikit-learn, pandas), Java, Typescript, C++, C#, SQL, x86, R

Web/Mobile Development
- Android Studio, Node JS, React, HTML, Bootstrap, Git, LaTeX, .NET, AWS (EC2, S3, Lambda, SQS, SNS), Azure, Firebase

Extracurricular Activities

Texas Spacecraft Laboratory (TSL)   *Feb. 2020 - PRESENT*
Seeker Team - Lead Pipeline Engineer
- Student-driven research group dedicated to designing and building hardware and software for space missions, in conjunction with NASA.
- Create full-pose estimation models ready for flight hardware along with streamlined data-generation and training pipeline