Suraj Anand

suraj_anand@brown.edu | (310) 987-0123 | github.com/surajk610

EDUCATION

Brown University Providence, RI

Sc.B. in Applied Math-Computer Science, GPA: 4.0/4.0 Expected Graduation May 2024

- *Relevant Coursework:* Software Engineering, Computer Systems, Data Structures and Algorithms, Compilers, Software Security/Exploitation, Deep Learning, Blockchains and Crypto, Discrete Structures/Probability, Statistical Inference I, Honors Linear Algebra, Information Theory, Ordinary Differential Equations

EXPERIENCE

VolKno Los Angeles, CA

Software Engineering Intern January 2022 - Present

- Deploying a Dockerized Apache Airflow DAG to compute and store scene-level attributes of trailer content including key objects, creative concepts, and demographic attributes of actors in a MySQL database
- Engineered REST API endpoint to get movie title metadata from an S3 bucket using Amazon API Gateway and AWS Lambda; Also worked extensively with AWS OpenSearch
- Developed a pipeline to ingest and clean Twitter tweet data about a movie in a specified timeframe using scraped and manually inputted hashtags

Brown Computational Linguistics (CS1460) Providence, RI

Teaching Assistant March 2022 - Present

- Instructing 100+ Brown students on Transformers, Hidden Markov Models, Dynamic Programming, Dependency Parsing, etc
- Created PyTorch coding assignment on Topic Modeling using Latent Semantic Analysis (LSA); helped develop course website

Kaiser Permanente Medical Informatics San Diego, RI

Machine Learning Engineer Intern May 2022 - August 2022

- Improved Kaiser's SmartTriage Platform in the classification of chief complaints from patient-entered free text by using sentence embeddings from an optimized sBERT model, increasing area under precision recall curve by 10%
- Fine-tuned a GPT-J Large Language Model to extract important kidney stone features (size, laterality, etc.) from chunks of radiology reports; Calibrated GPT-J Models with a BERT Discriminator and then used Self Learning and Active Learning to achieve 80% accuracy (paper in progress)

OR-Stencil Irvine, RI

Application Developer June 2020 - August 2020

- Collaborated with 2 engineers to build a native Swift iOS app for stenciling surgical templates on faces (paper)
- Developed an algorithm to draw relaxed facial skin tension lines using facial landmark detection, quadratic interpolation, and weighted averaging

PROJECTS

Lucidity – Messenger Analyzer | *Python, Flask, NumPy, Pandas, NLTK, MongoDB, TypeScript, React*

- Led a six-person team to develop a web application that summarizes text message activity (website, codebase)
- Designed in Figma and developed in React TypeScript a login, tables compiling response time and emoji usage, and a word cloud; Tested components with Selenium
- Developed functionality for encrypted authentication and CRUD operations using Flask and MongoDB

Distributed Social Network Storage System | *Java, Spark, Deeplearning4j, JavaScript, Firebase, Next.js*

- Implemented a distributed, sharded key-value store for scalable handling and storage of user and post data
- Used gRPC and Protobuf for the communication between servers; discarded data of deleted users

Token Decentralized Exchange | *Web3, Solidity, JavaScript, Ethereum Virtual Machine*

- Programmed a 2-token decentralized currency exchange protocol and tested functionality with the Mocha Javascript Framework

SKILLS & ACHIEVEMENTS

- **Languages**: Python, JavaScript/TypeScript, Java, HTML/CSS, Solidity, SQL, Swift, C, C++, MATLAB, Go
- **Technical**: Git, Docker, React, Figma, Flask, REST, MongoDB, Firebase, NumPy, Pandas, PyTorch/Tensorflow, MapReduce, Linux, Heroku, AWS Server Management, S3, Apache Spark
- **Awards**: Intel International Science Fair Finalist, Los Angeles County Science Fair Winner, AIME Qualifier