Rudra Gujarathi

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EDUCATION

University of Southern California   **Aug 2022 – May 2024**
*Master of Science, Computer Science, **GPA: 3.95/4.0***   *Los Angeles, CA*

SRM Institute of Science and Technology   **Jul 2018 – May 2022**
*Bachelor of Technology, Computer Science and Engineering, **GPA: 9.63/10***   *Chennai, India*

EXPERIENCE

DeepUSC Lab   **May 2023 – Aug 2023**
Software Engineer Intern   *Los Angeles, CA*

- Contributed to the development of Ablator, a model ablation toolkit for deep learning models.
- Wrote tests to verify the training steps, optimizers, and schedulers, identifying critical bugs across different operating systems by utilizing pytest and torch, which increased code coverage to 88%.
- Developed 5 beginner and 2 intermediate tutorials using Jupyter Notebooks, Sphinx, and PyTorch, offering step-by-step guidance and multiple approaches for model training, hyperparameter optimization (HPO), and analysis on CNN models using Ablator.
- Fixed over 10 issues within the framework to improve functionality and stability by adding type hints and resolving type conflicts, ensuring robust and error-free code.

Spade EMS   **Nov 2020 – Feb 2021**
Website Developer Intern   *Surat, India*

- Led a team of software interns in successfully delivering the company's new service page, including tasks such as identifying appropriate templates, designing components, and coding the front-end to enhance styling and animations.
- Collaborated with the team to develop the portfolio section of the website, resolving bugs and ensuring smooth transitions and improved functionality.

PROJECTS

ShopEase | *REST, MongoDB, JWT* | 🐙

- Developed a scalable e-commerce REST API using Node.js, Express, and MongoDB, with authentication, authorization, and role-based access.
- Implemented consumer features like multi-cart, product additions, saved addresses, and a streamlined checkout.
- Ensured data integrity with atomic transactions, validations for product availability, and balance checks.

BatchDB | *Python, Pandas, Algorithms* | 🐙

- Engineered a memory-efficient relational database system to handle large datasets in low-memory environments, utilizing CSV tables for optimal storage and retrieval.
- Implemented DDL, DML, and operators (selection, projection, joins, sorting, grouping, aggregations), integrating them through query execution techniques.
- Applied concepts such as external merge sort, query execution, grouping with sort, and sort-merge joins.

Event Explorer | *Android, Java, Angular* | 🐙

- Developed a platform for event search and exploration, available as both an Android app and a web application.
- Implemented event search, filtering, details display, and location-based functionality using Android Studio, Java, Node.js, Angular, and GCP.
- Ensured a responsive UI using fragment management, Angular services, and Bootstrap, integrating APIs such as Ticketmaster and Spotify, and deployed on GCP App Engine.

TECHNICAL SKILLS

Languages: Python, JavaScript, C, C++, Java, TypeScript, SQL, HTML, CSS, NoSQL, Node.js, MongoDB.
Frameworks: Angular, React, Django, Flask, TensorFlow, PyTorch, Spring Boot, MapReduce, Apache Spark.
Tools and technologies: Git, AWS, Pandas, Ray, NLTK, Matplotlib, Seaborn, Docker, Android Studio, PySpark, JWT, Multithreading, JUnit, Mockito.

ACHIEVEMENTS

- Achieved the title of "Kaggle Notebooks Expert" **(kaggle.com/rudragujarathi)**. Conducted analyses, solved ML problems, and received 70+ upvotes for contributions to the data science community.
- Certified AWS Solutions Architect - Associate with expertise in designing scalable and secure cloud solutions.
- Cleared three rounds of INFYTQ, a national-level competition conducted by Infosys, and received the title of "Infosys Certified Programmer."