

Kirity Ganga

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EDUCATION

Masters in Computer Science

Arizona State University | Tempe, AZ

Courses: Statistics in Data Mining, Database Management & Implementation, NLP, Linear Algebra, Probability & Random Processes

May 2023

CGPA: 3.7/4

Bachelors in Electronics and Computer Engineering

SRM Institute of Science and Technology | Chennai, India

May 2020

CGPA: 3.5/4

SKILLS

Programming Languages/Software: Python, Golang, C++, SQL(MySQL), Java, Tableau, Jira, Git, Agile

Frameworks/Libraries: Pandas, OpenCV, REST APIs, Matplotlib/Seaborn, Tensorflow, Keras, Flask

Datatypes and Cloud: AWS, Docker, MySQL, Postgres, Apache Kafka, Kubernetes

Certificates: AWS Cloud Practitioner, Machine Learning: Regression and Classification

PROFESSIONAL EXPERIENCE

RAVEN INDUSTRIES, Scottsdale, Arizona, US: Data Engineer Intern

May 2022 - Aug 2022

- Refactored the Polygrapher code to create independent and automated false positive reports and log verification report processes.
- Explored various object detection methods like EfficientNet and YOLO V4 to innovate and reduce the false positives by 5% reported by the Polygrapher for a given vehicle.
- Dockerized and deployed the applications on AWS after creating an ECR instance of the image container.
- Designed AWS pipeline and deployed containers with CI/CD workflow to prioritize efficient and automated deployment processes, **reducing deployment timing by 25%** (manual to automation) and increasing deployment frequency by 10%.

BITSILICA, Hyderabad, India: Machine Learning Engineer

June 2020 - May 2021

- Programmed and debugged a Road Lane Line detection system using the Hough Line Transform method to create an accurate and reliable lane detection system, **achieving an accuracy of 75%**.
- Designed and developed a face recognition model that could detect faces from distorted videos using libraries like FaceNet and DeepFace.
- Employed Flask web applications architecture to deploy and execute the model on a Linux cloud platform, prioritizing efficient deployment and development processes.

BITSILICA, Hyderabad, India: Research Engineer Intern

Jan 2020 - May 2020

- Researched and compared various autoencoders to efficiently denoise ECG signals without compromising the amplitude of the R peak metric.
- Produced a denoised signal with a Signal Noise (SNR) **difference of less than 15dB**, representing a 25-26% improvement over conventional filters.
- Received full-time extension as Machine Learning Engineer, based on the performance in the internship.

ARIZONA STATE UNIVERSITY, Tempe, Arizona, US: Teaching Assistant

Aug 2022 - Dec 2022

- Supervised classes of 50 students for the course EGR 598: Linear Algebra for Engineers, conducted doubt sessions, provided class notes, and proctored exams, ensuring academic integrity and an appropriate testing environment.
- Worked under the teacher's direction to create assignments and exam papers.

ACADEMIC PROJECTS

SQL CODE GENERATION MODEL | Skills: NLP, Python, SQL, DGL

Sept 2022 - Dec 2022

- Led a team of 4 to construct a code generation model that utilizes natural language processing to generate SQL queries from table schemas and questions.
- Implemented techniques to convert text embeddings to graph embeddings and utilized a deep graph neural network as the encoder to optimize the model's performance.
- Linked the encoder to the pre-trained decoder (Salesforce/codegen-350M-multi) and trained the entire model, significantly improving **accuracy by 10%**.
- Explored data-driven techniques, including various prompt techniques and the GPT-3 OpenAI API, to enhance the model's accuracy and stay at the forefront of the field.

GUI APP AUTOMATION TESTING | Skills: Python, Tkinter, PyAutoGUI

Jan 2022 - May 2022

- Developed a GUI automation testing project using the Tkinter web framework and PyAutoGUI library in Python.
- Created two versions of the application, AppV1 and AppV2, with different functionalities and interfaces.
- Recorded and executed 12 test cases to automate GUI testing, ensuring application executability, page navigation, button functionality, image manipulation, and closure.

IMAGE-BASED SEARCH ENGINE | Skills: Python, Numpy, OpenCV

Sept 2021 - Dec 2021

- Retrieved similar images from the data set using feature models like Extended Local Binary Patterns and HOG.
- Reduced the dimensions of the feature into a new semantic feature vector space using techniques like PCA and SVD to avoid redundancy.
- Applied Personalized PageRank and ASCOS++ algorithm to retrieve most similar images from a dataset that contains 4000 images and **improved Recall@10 from 0.33 to 0.48**.

ACHIEVEMENTS

- Led the submission for the NLP project "HELP ME THINK," resulting in two techniques ranked in the **top 10**.
- Volunteered in Special Olympic Bharat, Chhattisgarh, a sports movement for the physically disabled.