Manas Sharma

858-214-0806 | m7sharma@ucsd.edu | linkedin.com/in/manas-sharma99 | github.com/AwsManas

EXPERIENCE

Graduate Student Researcher   07/2023 - 12/2023
University of California San Diego   San Diego, CA
- [**Python**] Implemented new active learning technique based on region based sampling methods. [Paper]
- [**Docker**] Created a event based architecture in AWS Fargate to analyse the bird species present in the audio file

Software Engineer   02/2023 - 06/2023
University of California San Diego   San Diego, CA
- [**Django**] Programmed a secure and user friendly payment service for the ITA conference and deployed on AWS.
- [**React** | **AWS**] Integrated scheduling, profiling, and gallery using REST API's for mobile and web application to effectively manage and enhance the experience for around 1000 attendees.

Software Engineer   02/2021 - 09/2022
JPMorgan Chase & Co   Bangalore, India
- [**Spring Boot**] Programmed secured and robust APIs for the central data lake and warehouse to support efficient data processing in ETL pipelines for risk management.
- [**React** | **Elasticsearch**] Provided real time state of around 100,000 workflows in a customizable dashboard.
- [**Problem solving ,Optimization**] Developed a large scale distributed system for error fixing workflow service. Brought down execution time by 30%.
- Established an end to end **CI/CD pipeline** for cloud native microservices ecosystem.
- [**Testing**] Incorporated unit and integration test cases using Junit5 to ensure code quality and achieved a code coverage of over 95%. Also maintained a high quality documentation of the project.
- **Troubleshooted** existing issues and deployed critical bug fixes, conducted exhaustive load tests to ensure **100% uptime** during the quarter end to handle over 100000 workflows, cumulatively ingesting over **4 TB data**.
- [**Collaboration**] Represented the development team in leading communication with the SRE team. Delivered monthly updates on technical changes and provided debugging steps for potential issues.

Software Engineering Intern   06/2020 - 07/2020
JPMorgan Chase & Co   Bangalore, India
- [**MySQL**] Developed a schema for a scheduler application that streamlined scheduling and notification systems.

RELEVANT PROJECTS

CloudStore | *GoLang, SQLite, Unix Scripting, gRPC*   01/2023 - 04/2023
- Designed and implemented a network file storage using gRPC, allowing files synchronization.
- Implemented a Consistent Hashing Ring to efficiently distribute and manage data blocks on the cloud.
- Implemented the RAFT protocol to achieve consistency and fault tolerance
- Used SQLite3 to maintain metadata and allowed multiple users to service simultaneously without race condition.

Adversarial attack on Large Language Models | *PyTorch, Hugging Face*   01/2024 - 04/2024
- Led a 3 member team to implemented a learning based black box type attack.
- Developed a custom loss function aimed at both preserving the original sentence structure and intentionally misleading the state of the art BERT model.
- Successfully deceived the LLM classifier, achieving a reduction in accuracy from 97% to 25%.
- Utilised the same loss function to craft adversarial attacks on images as well that yielded high-quality images with imperceptible noise, effectively deceiving state-of-the-art ResNet models.

TECHNICAL SKILLS

Languages: Java (J2EE), Python , SQL, JavaScript, GoLang
Development Skills: Data Structures, Algorithms, Object Oriented Programming, Full Stack Development, Databases (RDBMS / NoSQL), Cloud, Agile, Kubernetes, DevOps, Event Sourcing, Monolith and Microservices development
Courses: Computer Vision, Software Engineering, Deep Learning
Teaching Assistant: Graduate Network System, Machine Learning, Probability and Statistics

EDUCATION

University of California San Diego   09/2022 - 06/2024
Master of Science in Computer Science   GPA : 4.0/4.0