SAIHARSHITH KARUNEEGAR RAMESH

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Education

MASTER OF COMPUTER SCIENCE — **December 2023**
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN ; GPA : **4.0**/4.0 — Illinois, USA

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE — **May 2021**
ANNA UNIVERSITY ; GPA : **9.54**/10.0 — Chennai, India
Vice President - Know-I Research Club; Joint Secretary - Association of Computer Engineers

Technical Skills

Languages Java | JavaScript | TypeScript | SQL | C++ | Python | HTML | CSS
Technologies / Frameworks Spring Boot | Node.js | Express | MongoDB | MySQL | React.js | Git | GraphQL | AWS | Docker

Experience

GRADUATE RESEARCH ASSISTANT @ NCSA, UIUC — **Jan 2023 – Aug 2023**
Python | OpenCV | MySQL — Champaign, Illinois

- Designed a YOLOv8-based vehicle detection system, achieving **95%** accuracy in detecting vehicles and integrating the DEEPSORT algorithm to analyze acceleration of over **10,000** vehicles daily.
- Implemented a real-time data transmission mechanism to relay acceleration and camera position data to a MYSQL server.

SOFTWARE ENGINEER @ FRESHWORKS — **Feb 2021 – April 2022**
Java | MySQL | Spring Boot | Apache Kafka | AWS | Redis | REST APIs — Chennai, India

- Re-engineered the background server of Freshworks' CRM by transitioning from a monolithic architecture to a **multi-layered microservices** architecture. This reduced the network traffic overload by **40%**, optimizing system performance and reliability.
- Engineered a substantial enhancement in email deliverability by redesigning the sign-up process. This led to a **50%** reduction in the overall spam score percentage of the product, underscoring a commitment to delivering a **superior user experience**.
- Significantly improved the system efficiency by streamlining the sign-up request processing, achieving a **30%** reduction in the processing time. Implemented an **asynchronous** sign-up callback process for responsiveness and resource utilization.
- Enriched the email–deliverability metrics by **40%** by introducing de-duplication algorithms. Leveraged technologies, such as Redis Cache, to optimize data management and ensure the highest level of data integrity.
- Collaborated in implementing a new landing page feature in Freshsales product within a tight **2-day** deadline, meeting customer requirements.
- Enhanced product build efficiency by upgrading the build tool **(Gradle)**, reducing build time from over 13 minutes to **8** minutes.

MACHINE LEARNING PROJECT TRAINEE @ CADENCE DESIGN SYSTEMS — **May 2019 - June 2019**
Python | MySQL — Bengaluru, India

- Collaborated with an agile team to refine machine learning algorithms, emphasizing advanced data preprocessing like normalization and feature engineering, enhancing model robustness.
- Employed three ensemble learning methodologies, integrating predictions from eight models, boosting predictive accuracy by **23%**.

Academic Projects

TAG-ME-IN

- Developed a carpooling application for University of Illinois students to find and join rides to similar destinations.
- Utilized **React.js** for front-end, **Node.js** and **Express.js** for back-end, and **MySQL** for database management.
- github.com/harshith2000/TagMeIn

GITHUB OPEN SOURCE CONTRIBUTIONS

- Detected Bugs: 28 | Resolved Bugs: 28
- Notable Organizations: google/guice, apache/commons-lang, manifold-systems/manifold, stleary/JSON-java

APPLICATION OF RANDOM FORESTS FOR AIR QUALITY ESTIMATION IN INDIA BY ADOPTING TERRAIN FEATURES
PYTHON | PANDAS | JUPITER NOTEBOOK

- Built a Regression model which predicts the **Air Quality Index (AQI) of any Indian city** using its terrain features with **81%** accuracy.
- ieeexplore.ieee.org/document/9315252

THE DISEASE PREDICTOR

- Built an android application using **Java** that predicts different types of external diseases with an image input using **Convolutional Neural Networks** with **89%** accuracy. Created the dataset from scratch by web scraping.
- Won the **Most Feasible Project Award** in a 36-hour hackathon conducted by ACM, SVCE.
- github.com/harshith2000/The-Disease-Predictor