Veeresh Shanmukha Koliwad

602-451-5421 • veereshkoliwad99@gmail.com • www.linkedin.com/in/veereshkoliwad • www.github.com/veereshgit99

SKILLS

Tech: C, C++, Java, Python, JavaScript, Artificial Intelligence, Machine Learning, Computer Vision, Object Detection, Natural Language Processing, LLM, Data Visualization, Recommended Systems, Neural Networks, PySpark, IaC, Data Structures & Algorithms, OOPS
Frameworks: TensorFlow, NumPy, Pandas, Scikit-Learn, PyTorch, Docker, Kubernetes, React, Spring Boot
Tools and Databases: JupyterLab, PostgreSQL, MongoDB, OpenCV, YOLO, Kafka, Elastic Search, Redis, Git, GitHub
Methodologies/Cloud Platforms: REST, Microservices, Agile, AWS, Azure, SAP Cloud Platform

PROFESSIONAL EXPERIENCE

SAP LABS, Bangalore, India: Associative Software Developer July 2021 – Dec 2023

- Designed & developed Data Warehouse Architectures and Pipelines on Azure platform using Java and Python for distributed unstructured and structured data (i.e., documents, IoT sensor data, on-premise & cloud databases), hence cutting cost by 92%.
- Piloted **Smart Document Retrieval** using Python across distributed storage achieving **75% faster search results and 97% accuracy**.
- Built models for product conformance in factories based on real-time streaming IoT data improving efficiency & reliability by 87%. Solely and completely responsible for the entire process of model building, training, analysis and evaluation.
- Performed offline and online evaluation of the models. Built data pipelines throughout the process for recurrent training and analysis.
- **Led a team of four in the development of a bug prediction system** that utilizes machine learning to analyze historical bug data and software metrics for building predictive models.
- **Designed and led the architecture** of the system, both at high and low levels, utilizing Python and Flask for the backend, **React** for the frontend and PostgreSQL as the database.
- **Optimized API performance by approximately 30%** through Redis caching on the backend, enhancing website responsiveness and **boosting user engagement by 20%.**

SAP LABS, Bangalore, India: Software Developing Intern Feb 2021 – July 2021

- Built demo Spring web application using Spring Boot.
- Contributed to a full-stack application using SAP Fiori for UI and MongoDB as the database.
- Deployed applications on AWS, improving accessibility and performance through cloud-based services.
- Developed a Jira Gadget with an HTML front-end and a JavaScript backend to track open tickets.

PROJECTS

Football Analysis System using Machine Learning and Computer Vision Jun 2024 – Aug 2024

- Developed a football analysis system using **YOLOv8** for real-time detection of players, referees, and the ball, enhancing accuracy through fine-tuning of a custom YOLO model.
- Utilized **KMeans** clustering for pixel segmentation to identify player t-shirt colors and assigned teams, while applying optical flow techniques to track camera movement and objects across frames.
- Simulated real-world environments with OpenCV's perspective transformation and leveraged the DFL - Bundesliga Data Shootout Dataset from Kaggle.

Movie Recommendation System Aug 2024 – Present

- Developed a hybrid movie recommendation system utilizing collaborative and content-based filtering techniques, employing matrix factorization for user preferences and analyzing metadata for recommendations.
- Integrated the recommendation engine with a SQL database and designed a React and JavaScript user interface to provide real-time, personalized movie suggestions.

EDUCATION

M.S. Computer Science Dec 2025
Arizona State University, Tempe, AZ
Courses: Foundations of Machine Learning, Natural Language Processing, Cloud Computing, Operating Systems, Generative AI.

B.S. Computer Science Aug 2021
RV College of Engineering, Bangalore, India