Yash Khairnar

+91 8999143290 | Email | LinkedIn | Github | X.com | Portfolio

Education

San José State University Expected August 2025 – May 2027
Master of Science in Computer Science (MSCS)

International Institute of Information Technology June 2020 - June 2024
Bachelor of Computer Engineering *CGPA: 9.00 / 10.0*

Experience

Software Engineer, AI July 2024 - June 2025
Accurate Industrial Controls Pvt. Ltd. *Pune, India*

- Lead the Neurogen Project where I worked on researching and developing RUL, Anomaly Detection and Predictive Maintenance modules for Generator Sets.
- Developed a Windows application for ANPR: Created a Python application using the fine-tuned YOLOv11 PaddleOCR model for vehicle detection and number plate reading.
- Developed a pre-filling pipeline in ROS that processes camera feeds through NVIDIA Triton Server, utilizing YOLO for O-ring and pin detection and EasyOCR for weight and expiry date extraction of LPG cylinders. Achieved 93% model accuracy while reducing manual intervention by 100%, significantly improving operational efficiency.
- Developed a Windows application for object detection: Created a Python application using the YOLOv11n model to detect water vessels. Implemented WebSockets for remote camera control.

Artificial Intelligence Intern August 2023 - November 2023
Accurate Industrial Controls Pvt. Ltd. *Pune, India*

- Conducted anomaly detection in copper coils for Bharat Heavy Electrical's Limited, utilizing models like Patchcore for anomalies, YOLO for object tracking, along with image compression algorithms
- Implemented video streaming capabilities using Flask, React, NodeJS, and Express and
- Researched pathfinding and collision avoidance algorithms for Autunomous Boat.

Deep Learning Intern November 2022 – February 2023
ResoluteAI Software *Bangalore,India*

- Developed a face recognition attendance system for schools using OpenCV and DeepFace.
- Experimented with OCR models for extracting information from resumes and utilized text processing techniques.
- Implemented plank and pipe detection and counting using YOLO models.
- Created a pipeline to assess vacant space in commercial freezers using OpenCV.

Projects & Research

1. **Slique : Connect with Top Models and Casting Opportunities**
   - Developed a modern, responsive UI using Next.js and Tailwind CSS, deployed on Vercel.
   - Integrated the backend with PostgresDB in AWS RDS
   - Integrated real-time chat and notifications using Pusher Library.
   - Implemented key features like model hiring, job posting, contract creation, and scheduler to streamline workflows.
   - Deployed on Vercel : https://slique.vercel.app
2. **System for early detection of Lung cancer**
   - Identified key metabolomic biomarkers for lung cancer prediction using Plasma and Serum samples through statistical tests like Shapiro–Wilk, Bartlett's, Levene's, Student's t-Test, and Kruskal–Wallis.
   - Applied Recursive Feature Elimination with Random Forest to select the most dominant biomarkers in the second phase of analysis.
   - Achieved 100% and 90.91% prediction accuracy for Plasma and Serum samples, respectively, using Ridge and XGBoost classifiers, outperforming the state-of-the-art methods.
3. **Modeling 3D Dynamical Systems Using Transformers**
   - Developed a predictive model for 3D dynamical systems using Transformers, achieving a prediction accuracy of 90% for chaotic system states.
   - Applied the Koopman operator to linearize nonlinear behaviors, improving model performance in approximating complex systems like the Lorenz system.
4. **Image anomaly detection using CNN autoencoder**
   - Trained an autoencoder to learn latent representations for cell images in Malaria Dataset
   - Used both the reconstruction error and the kernel density estimation based on the vectors in the latent space.
   - Utilized Conv2D, MaxPooling2D, UpSampling2D layers in tensorflow

Technical Skills

Languages : Python, C++, JavaScript, TypeScript, HTML/CSS
Frameworks & libraries : Tensorflow, Keras, PyTorch, ROS, Sckit-Learn, Numpy, Pandas, Matplotlib, React, Express, NodeJS, NextJs, Flask, SpaCy, NLTK, LangChain, Streamlit
AI & ML : Regression, Classification, SVM, Decision Trees, Random Forest, Ensemble Learning, Dimensionality Reduction, Unsupervised Learning, Deep Learning, Computer Vision, Transformers, Auto-encoders & GANs, NLP, Time series data analysis
Databases & libraries : SQL databases, SqlAlchemy, MongoDB, mongoose, PostgreSQL, Prisma, Redis, AWS RDS
Cloud & DevOps : AWS, Cloudflare, Git, Docker, Nginx, Kubernetes

Additional Experience & Achievements

Best Student Award : Received the Best Student Award in 2024 for academic excellence and overall development during undergraduate studies.
President - Computer Engineering Students' Association, 2023-24: Organized technical workshops, hackathons, and cultural events. Delivered technical sessions to junior students, built a daily coding community for improving Data Structures & Algorithm skills in students, fostering a collaborative learning environment and enhancing peer engagement within the Computer Engineering Department.
Publication : Comprehensive review of lung cancer detection with metabolite profile, CT scans using machine learning - Alochana Journal ISSN : 2231-6329