

# NIKHIL KSHIRSAGAR

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## SUMMARY

Developer with experience building production ML systems from data pipelines to deployment. Worked across computer vision, RAG systems, and real time platforms, handling both model training and backend infrastructure. Comfortable moving between training object detection models, optimizing vector databases, and building APIs that scale. Focused on end-to-end implementation rather than siloed specialization.

## EXPERIENCE

### Computer Vision Intern

 06/2025 Present  Pune

#### Inditronics Pvt Ltd

- Created **image collection pipeline** for OTT and Linear TV streams, creating training datasets for **YOLO-based object detection** deployment on **Advanced People Meter hardware**
- Automated data preprocessing workflows**, reducing manual processing time by 40% while maintaining **90% data quality standards**
- Trained and evaluated YOLO, Segmentation, InsightFace, and OCR** models for **cross-platform** content analysis across **multiple regional markets**

### Python Developer Intern

 01/2025 06/2025  Pune

#### BotPlus LLP

- Built **production RAG system** handling 30,000+ documents with consistent **2-5 second response** times for legal advising chatbot.
- Configured Qdrant with **optimized HNSW parameters** and metadata-based filtering that reduced average retrieval time from **15+ seconds to 2-5 seconds**

## PROJECTS

### PlotTwist - Collaborative Storytelling Platform

• *Python • FastAPI • MongoDB • Next.js*

- Developed real-time competitive writing** platform where users collaboratively create and review stories through **gamified voting mechanics**
- Engineered FastAPI backend with **JWT authentication, token rotation, and role-based access control** for secure async MongoDB operations
- Applied **WebSocket-based peer rating system** with anonymous star feedback and **real time critique aggregation**

### HouseBuddy - AI Real Estate Assistant

• *Python • Flask • RAG • Next.js • Qdrant*

- Designed a **RAG-powered conversational system** that answers property inquiries using **scraped real estate documents**, ensuring consistent and verified responses
- Added **multilingual support** (Hindi, Marathi, Tamil, Telugu) via Hugging Face models for regional language queries
- Ensured conversation persistence with **save, bookmark, and export features**

### AquaAnalyzer - Fish Detection and Monitoring

• *Python • Selenium • CV2 • YOLO • Twilio API*

- Deployed YOLOv8 detection system processing **30 FPS video feeds at 90% accuracy across 5+ species**, eliminating manual hourly population checks
- Built geofenced dissolved oxygen monitoring with threshold detection, **reducing critical incident response from 2+ hours to under 5 minutes**
- Integrated Twilio SMS alerts** for oxygen depletion, mortality spikes, and population anomalies to prevent mass fish loss

## EDUCATION


### Master of Computer Application

[Modern College Shivajinagar](#)

 07/2023  06/2025  Pune

### Bachelor of Computer Science

[Nowrosjee Wadia College](#)

 2019  2023  Pune

## SKILLS

### Programming languages: -

- Python
- Java
- React

### Framework: -

- Fast API
- Flask
- Next

### Database & Cloud:-

- MongoDB
- MySQL
- Azure

### Developer tools: -

- VS Code
- Docker
- Git Hub

### Libraries: -

- Pandas
- Numpy
- Selenium
- CV2

## LANGUAGES

English	Proficient	● ● ● ● ●
Hindi	Proficient	● ● ● ● ●
Marathi	Advanced	● ● ● ● ●

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