

# KUNAL RAJPUT

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## EXPERIENCE

### Software Developer

June 2022 - July 2023

Persistent Systems

Pune, India

- Engineered an optimized textile automation platform by integrating React, Django, and PostgreSQL with Celery and Redis for asynchronous task processing, reducing manufacturing data processing time by 85% across 15 critical stages.
- Enhanced large-scale data computations by implementing Celery-based batch processing and PostgreSQL optimizations using Pandas, enabling efficient production metric calculations and accelerating planning cycles by 60%.
- Designed interactive visualizations using Chart.js and Tailwind CSS, integrating Django Channels for real-time updates on 20+ key production metrics, improving operational insights and achieving 95% user adoption across factory teams.

### Software Developer Intern

January 2022 - June 2022

Persistent Systems

Pune, India

- Developed a cloud-hosted Workforce Management Platform for 15,000 employees using Django, Vue.js, and SQLite, deploying on AWS EC2 with an RDS database, resulting in 65% faster HR operations across the organization.
- Automated 10+ HR workflows including onboarding, attendance tracking, and payroll processing by implementing Django task automation with AWS Lambda and S3 for secure file storage, reducing manual effort by 80% and improving scalability.
- Improved deployment efficiency and reliability by integrating AWS CodePipeline for CI/CD and managing Git workflows, enabling faster feature rollouts and a significant decrease in production bugs.

## EDUCATION

### Master of Computer Science

August 2023 - May 2025

Illinois Institute of Technology

Coursework: Cloud Computing, Machine Learning, Natural Language Processing, Mobile App Development, Big Data.

### Bachelor of Computer Engineering

August 2018 - July 2022

Savitribai Phule Pune University

Coursework: Operating Systems, Data Structures and Algorithms, Database Management, OOP, System Programming.

## PROJECTS

**Kiri AI - Emotion-based Voice Assistant** Integrated Flutter speech-to-text with Google Cloud NLP and a fine-tuned BERT model to transform user voice input into emotionally aware real-time responses with a 96% accuracy. Leveraged these NLP insights to drive personalized text-to-speech output, enhancing user engagement and interaction quality.

**Disease Prediction and Medicine Recommendation** Programmed a ML system using the Random Forest model integrated with a Flask-based front-end delivering personalized medication recommendation, improving diagnostic precision by 95%.

**Interview Prep Platform using LangChain** Innovated a learning platform processing 420+ questions harnessing Hugging Face vector embeddings for semantic analysis leveraging Chroma DB. Used RetrievalQA for 95% precise retrieval and fine-tuned with the Google PaLM model for 33% more creative outputs.

**GitHub Repo Insights and Forecasting Tool** Developed and deployed a predictive analytics tool utilizing Docker, GCP, Python, and React to process over 10,000 GitHub issues and additional metrics. Incorporated the GitHub API to architect data pipelines, conduct trend analysis, and generate insights via machine learning models and dynamic visualizations.

## SKILLS

Languages	Java, C, C++, C#, JavaScript, Python, Dart, Kotlin, Shell Scripting
Cloud/Database	Hadoop, Spark, AWS (EC2, S3, RDS), Docker, GCP, ElasticSearch, PostgreSQL, MongoDB, MySQL
AI/ML	LLM, Scikit-Learn, PyTorch, TensorFlow, Neural Networks, RAG Models, Regression, Classification
Data Analysis	NumPy, Pandas, Matplotlib, Seaborn, Tableau, PowerBI.

## PUBLICATIONS

- Sonar Soham, Chaudhari Nikhil, Patil Chandan, **Rajput Kunal** and Dr. K. C. Nalavade. "ESTIMATING STOCK PRICES USING LSTM". Published in Dickensian Journal, Volume 22, Issue 6, 2022. [Link].
- Rajput Kunal**, Chaudhari Nikhil, Sonar Soham, Patil Chandan. "FORECASTING EQUITY PRICES USING LSTM ALGORITHM". Published in IJCRT Journal, Volume 9, Issue 12, December 2021. [Link].