

SONU KUMAR

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SUMMARY

MCA postgraduate (8.2 CGPA) specializing in Full-Stack Development and Python-based application engineering, with strong foundations in data structures, backend systems, scalable solution design, and Artificial Intelligence. AI/ML Intern with hands-on experience building modular ML pipelines and preprocessing frameworks at ACISM.

SKILLS

Languages: Python, JavaScript (ES6), SQL.

Web Development: React.js, HTML5, CSS3, Tailwind CSS, Django, Django REST Framework, Flask, FastAPI, REST API.

AI/ML: Machine Learning, NLP, Deep Learning, Feature Engineering, Model Evaluation, Model Train & Testing.

Data & ML Libraries: Scikit-learn, XGBoost, Hugging Face, LangChain, RAG, LLMs.

Data Science: Pandas, NumPy, pgvector.

Databases: PostgreSQL, MongoDB, Microsoft SQL Server.

Cloud, Tools & Deployment: Amazon Web Services (EC2, S3, IAM), Git, Postman, Jupyter Notebook, VS code, Vercel.

EXPERIENCE

ACISM Software Private Limited – Remote | [Certificate](#)

AI ML Intern Jan 2025 - Jul 2025

- Engineered a modular preprocessing pipeline with components that reduced processing time and manual effort by 70%.
- Optimized pipeline structure and separation of concerns, enabling developers to save 90% setup time across ML projects.
- Designed a Model Selection UI supporting 15+ algorithms with descriptions of their best use cases.
- Built 25+ reusable components covering preprocessing, training, hyperparameter tuning, evaluation, and inference.
- Validated pipeline robustness using 5+ production-grade datasets to ensure reliability and consistent results.
- Improved model accuracy by 15% through hyperparameter tuning, feature scaling, and algorithm selection.
- Streamlined configuration workflows, cutting setup time by 40% with parameterization and file-based I/O automation.
- Implemented pyproject.toml, cutting intern onboarding time by 50%.
- Systematized Windows path setup, cutting onboarding/setup time by 50% and boosting intern productivity.

CERTIFICATES

- Data Science for Engineers** – NPTEL & IIT Madras (SWAYAM) [LINK](#)
- Machine Learning Using Python** - Simplilearn [LINK](#)
- Cloud Computing and Distributed Systems** – NPTEL & IIT Kanpur (SWAYAM) [LINK](#)

PROJECTS

1. Know Your Org – AI Powered Internal Knowledge System [Project GitHub](#) | [Website](#)

Tools: Django REST Framework, React, PostgreSQL + pgvector, Redis, Celery, Hugging Face API, AWS EC2, Nginx, Vercel

- Built RAG platform with pgvector + Hugging Face models achieving <2s AI-powered answers from 10K+ documents
- Implemented JWT auth, 4-tier RBAC, Redis caching, and Celery async processing for document chunking and embeddings
- Optimized vector search performance (<100ms queries), reducing knowledge retrieval time by 95%
- Deployed full-stack on AWS EC2 (backend) and Vercel (frontend) with Nginx, SSL, and CI/CD automation
- Designed responsive React interface with analytics dashboard, dark mode, and role-based workflows for 4 user types

2. Fake Job Post Detector using NLP and SHAP [Project GitHub](#) | [Demo App](#)

Tools: Python, Scikit-learn, XGBoost, TF-IDF, SHAP, SMOTE, Streamlit

- Built an end-to-end fake job posting classification system using TF-IDF features and XGBoost, achieving ~95% accuracy.
- Applied SMOTE to address class imbalance, improving minority class recall by ~18%.
- Used SHAP to explain individual predictions, improving model interpretability and trust.
- Serialized trained model and vectorizer into .pkl files, making the solution deployment-ready for API integration.
- Deployed the application using Streamlit to demonstrate real-time inference.

3. Loyalty Analytics Engine – Real-Money Gaming Platform [Project GitHub](#)

Tools: Python, Pandas, Google Colab, GSpread, OAuth2

- Developed a loyalty analytics engine to compute scores, rank users monthly, and distribute rewards.
- Implemented slot-based segmentation and scoring, achieving accurate ranking of top 50 players.
- Designed ₹50,000 bonus distribution strategy using proportional fairness, boosting engagement by 20%.
- Mechanized data pipeline with Google Sheets integration, reducing manual work by 60%.

EDUCATION

Dy Patil University School of Management - Pune, Maharashtra

MCA: Computer Engineering - 8.2 CGPA | Aug 2023- Jul 2025

ACHIEVEMENTS

TCS iON NQT - IT - 68.03% NOV 2025