

# Saurabh Chauhan

Springfield, Illinois • 217-862-4640 • schau57@uis.edu • [linkedin.com/in/saurabh-chauhan2298](https://www.linkedin.com/in/saurabh-chauhan2298)

• <https://saurabh-chauhan22.github.io/portfolio.github.io/>

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## SUMMARY

Software engineer and AI enthusiast with 3 + years of product experience; B.E. in Computer Engineering and currently pursuing an M.S. in Computer Science at the University of Illinois. Modernizing Drupal sites as a **web-development intern**, delivering responsive components and an AI-powered chatbot that enhances campus engagement. I bridge deep-learning research and full-stack delivery, translating complex ideas into clean, production-ready features through good iteration and testing. Committed to turning technical challenges into reliable, user-centric solutions that create real-world value.

## SKILLS

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**Languages:** Python (3.12 +), Java (11), JavaScript (ES6), R (3.6), Grpc (Proto3)

**Cloud & Version Control:** GCP, AWS, Apache Spark, Git, SVN (Subversion)

**AI-ML:** OpenAI-api, TensorFlow (2.16), PyTorch (2.6), Keras, Spacy, Generative AI, RAG, NLTK, Lang Chain (2.0), Pandas, NumPy

**Web Development & Tools:** Drupal 10, Django (4.1), Flask (3.0), Spring boot, Tailwind CSS, jQuery (1.8).

**Database:** SQL Server (19), Oracle, SQL Alchemy, PostgreSQL, SQLite.

## WORK EXPERIENCE

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**University of Illinois • Springfield, Illinois, USA • 04/2025 - Present**

**Website Intern (College of Health, Science & Technology)**

- **Engineering reusable Drupal components and landing pages** by hand-coding Twig templates with semantic HTML5, Sass-driven Bootstrap themes, and modular ES6 scripts to deliver fully responsive, WCAG 2.1-AA-compliant layouts.
- **Building a client-side “Faculty Directory” with multi-facet filtering** (academic unit, department, expertise) that leverages REST-export Views, debounced search logic, and vanilla JS to return sub-150 ms results for 400 + profiles without extra server calls.
- **Prototyping and deploying an AI-powered admissions Chatbot** through a custom Drupal block that wraps the OpenAI API, manages authentication, streaming responses, and rate-limits while persisting chat context in Drupal State API.
- **Automating and hardening the local stack with DDEV on WSL 2/Docker**, writing composer scripts, resolving Nginx/port conflicts, and tuning Xdebug & Drupal caches to standardize team workflows and cut environment setup time to < 30 minutes.

**Product Dossier Solutions Pvt Ltd • Pune, India • 06/2023 - 07/2024**

**Software Engineer (AI-ML)**

- Architected an innovative backend package that improved code reusability by streamlining future development efforts while facilitating faster deployment cycles with measurable time savings.
- Individually developed AI backend package and architecture which reduced code reusability.
- Created and deployed machine learning models utilizing Spacy, improving text classification accuracy by 30% and enabling real-time detection and extraction of form fields.
- Built & implemented scalable distributed computing systems using AWS EC2 and GCP for high-performance automation system.
- Composed automation software solutions using Core Java and Docker, reducing deployment times.
- Collaborated with software engineers and data scientists and drove initiatives to monitor and evaluate the performance of machine learning integrations, implementing real-time analytics that provided actionable insights and increased model accuracy by 20%.
- Built an automation software-based solution in Core Java utilizing Docker, Apache Freemarker which reduced deployment time of software.
- Integrated Apache API SIX gateway (Front-end proxy and Load balancer) into a spring boot application to manage GRPC APIs of AI services for client increasing customization of API and security.
- Spearheaded the development and implementation of a Retrieval Augmented Generation system utilizing Lang Chain (v2.0) with OpenAI and Mistral 7B model, enhancing document text extraction efficiency by 40% through prompt engineering.

## Dasha Krit Technology Pvt Ltd (D10X) • Pune, India • 05/2021 - 04/2023

### Software Engineer

- Programmed a Django SAAS multi-tenant workflow application from scratch to version 1.1. Led the project and coordinated individually with team members, creating, and assigning tasks to ensure timely delivery of the product.
- Enhanced shell scripts to automate software deployments and to run automation testing suite on client Linux servers.
- Engineered an automated solution with Python for precise extraction of live data from a WebSocket API; integrated daily updates into the database via SQL Alchemy, drastically improving data availability and accuracy.
- Integrated Apache Superset into a stock market application, enhancing user experience by enabling real-time data exploration and visualization.
- Streamlined automated testing frameworks with Python Playwright (Robot Framework) that decreased manual QA efforts by over 35% while ensuring code quality remained high, leading to faster rollouts of new features.
- Pioneered a fin-tech product base architecture of the project and the database structure, integrating third-party APIs and WebSocket.

### EDUCATION

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#### Master of Science in Computer Science

University of Illinois • Springfield, Illinois

Grade: 4 GPA

#### Bachelors of Engineering in Computer Science

Pune University • Pune, Maharashtra, India

### PROJECTS

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#### Invoice IQ

- Developed and integrated an end-to-end information extraction pipeline for invoices, incorporating GPU-accelerated OCR and a transformer-based NER model.
- Trained and fine-tuned the NER model on annotated data to accurately identify and retrieve key invoice fields.
- Significantly improved efficiency and reliability in invoice processing, streamlining data workflows and reducing manual labor.
- With a 95% accuracy rate, the model detected 6-7 entities out of 8 entities from the uploaded invoice by the user.
- Tech Stack/Libraries: Docker, Doccano, Spacy, Tkinter

#### Neurofy

- Develop an application that efficiently converts **spoken content** into structured mind map.
- Ensure the interface remains **clean and minimalistic** to reduce cognitive overload using stream-lit.
- Support **audio input** through both file uploads and live voice recordings.
- Provided an interactive and intuitive **mind map** visualization for easy reference.

#### ASL to Text Classification

- Developed a Fine-tuned model with a self-supervised VideoMAE transformer for ASL video classification, achieving top accuracy on a curated 239-class dataset using masked autoencoding and a classification head on the CLS token.
- Engineered a Universal Temporal Sub-sampling (UTS) pipeline to convert 45 fps recordings into 16-frame clips, enabling compatibility with 3D patch-based input for transformer inference.
- Curated a balanced dataset through selective class sampling and applied VideoAug-based augmentation (spatial flips, color jitter, temporal shifts) to address label imbalance and improve generalization.
- Optimized training with AdamW and cosine decay scheduling on GPU-constrained hardware, incorporating early stopping and external compute to manage memory and accelerate experimentation cycles.

## VOLUNTEERING & LEADERSHIP

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### **Rotaract Club of University of Illinois, Springfield • 10/2024 - Present**

Public Relations Officer/Social Media Manager

- Manage all the public & social events of the University organized by the club. Handle all the social media platforms like Instagram, Facebook, YouTube.

### **Rotaract Club of DYPVP • 08/2019 - 04/2020**

Public Relations Officer

- Managed and optimized social media platforms (Instagram, Twitter, Facebook), successfully growing the follower base to over 1,000.
- Served as the primary point of contact for media inquiries and public relations matters, ensuring clear and timely communication with the public and Rotary members.
- Executed a series of well-organized social and online activities like cooking competition, food distribution and blood donation drives.

## EXTRA ACTIVITIES

### **Engaged into a 12-hr. hackathon building a project with Django and REST Framework. • 08/2015 - 11/2017**

Lead Team into Hackathon

### **Universal Science Academy - Coaching Center • 08/2018 - 11/2020**

Coordinator and Teacher

### **Team member**

Google Summer of Code 2022 program