

Prateek Kumar Sharma

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OBJECTIVE

As a Master's student in Computer Science with experience in AI, Machine Learning, Computer Vision, Data Science, and full-stack development, I specialize in AI-driven solutions, software automation, NLP, and data analysis. I'm passionate about using my skills in Generative AI, data analysis, and software automation to create innovative solutions that tackle real-world problems. I'm excited to collaborate with a dynamic team to drive meaningful change and make an impact.



EDUCATION

Technical University of Kaiserslautern (RPTU) , Kaiserslautern, Germany	Expected 2026
Master's of Science in Computer Science	
Specialisations: Software Engineering & Intelligent Systems	
Mahavir Swami Institute Of Technology (GGSIPU) , New Delhi, India	2018 - 2022
Bachelor of Technology - Computer Science Engineering	GPA: 1.5

TECHNICAL SKILLS

Programming Languages:	Python, C++, C#, JavaScript, TypeScript, HTML, CSS.
Databases:	MySQL, MongoDB.
Frameworks:	Django, React, Svelte, NodeJS.
Libraries:	TensorFlow, Matplotlib, PyTorch, NumPy, Pandas, Scikit Learn, NLP, OpenCV.
Operating Systems:	Linux, Windows, macOS.
Tools:	Jupyter Notebook, Jira, VS Code, Git, GitLab, GitHub, Google Colab, Tableau.
Research Skills:	Literature Review, Data Collection, Data Processing, Data Mining, Analytical Thinking, Technical Writing, Problem Solving.

WORK EXPERIENCE

German Research Center for Artificial Intelligence (DFKI) , 	Kaiserslautern, Germany
Research Assistant (HiWi)	December 2024 – August 2025
<ul style="list-style-type: none">Operated and maintained CARLA driving simulator to ensure accurate and efficient data collection for autonomous vehicle research.Designed realistic driving scenarios using Scenic and XML, aligned with specific use cases in autonomous vehicle development.Developed and maintained Python scripts for extracting and processing sensor data from simulated vehicle environments, enabling enhanced data for model development.Built & refined machine learning models to replicate human-like perception, optimizing behavioral accuracy and realism in autonomous driving systems.	
Ferns N Petals , 	Gurugram, India
Software Engineer - Data Science	July 2022 - June 2023
<ul style="list-style-type: none">Contributed to developing an Auto-Tagging Tool using Django and MongoDB; designed REST APIs and implemented ML/NLP pipelines to automate product categorization and improve operational efficiency.Designed & Implemented a Support Vector Machine (SVM) model with OneVsRest classification, improving user recommendation accuracy by 89%.Reduced data processing time by 20% by applying dimensionality reduction techniques like PCA to enhance model performance.Executed the complete end-to-end data science workflow, including data collection, cleaning, exploration, visualization, modeling, evaluation, and deployment.Prepared analytical reports and presented data-driven insights to cross-functional teams, streamlining decision-making processes.	

ADDITIONAL INFORMATION

Languages: English (Fluent), German (Intermediate).
Interests: Technology trends, Cricket, Badminton, Travelling, Photography.

PROJECTS

Visual Analytics Dashboard – Superstore Dataset

October 2024 – February 2025

Tools & Technologies: Svelte, D3.js, JavaScript, HTML, CSS.

- Developed a dynamic web-based dashboard using Svelte and D3.js to analyze Superstore sales data and derive business insights.
- Built interactive visualizations with hover effects, filtering, and linked views for enhanced data exploration.
- Focused on user-centric UI/UX design, delivering seamless navigation and effective storytelling through data.
- Strengthened skills in data visualization, front-end development, and user experience design.

Capstone 2024 – [Fraunhofer IESE & Insider’s Technologies]

September 2024 – December 2024

Tools & Technologies: React.js, REST APIs, GitLab, OpenAI LLMs, Prompt Engineering, AI Agents.

- Contributed as a Data Scientist and Developer to enhance the GenerAIor: AI-Powered Document Extraction Tool, by streamlining the document processing workflow.
- Designed and developed an interactive tutorial system for user onboarding, improving the user experience, and enabling smoother tool adoption.
- Implemented automatic field name proposals using OpenAI’s LLMs, significantly optimizing the document data extraction process and improving precision in field identification.
- Led the full SDLC—from requirements to deployment—collaborating with a cross-functional team to deliver a scalable, user-friendly platform with a focus on customer-centric design.

Fine-tune LLM for Code Generation

March 2024 - April 2024

Tools & Technologies: Jupyter Notebook, Github, Google Colab, Hugging Face, Python.

- Fine-tuned Microsoft’s phi-1_5 model on the CodeParrot/ APPS dataset (10,000 Python problems) to improve Python code generation from natural language prompts.
- Implemented Prompt Engineering to generate synthetic data and Fine-Tuning (PEFT) with Low-Rank Adaptation (LoRA) techniques.
- Conducted iterative fine-tuning using original, synthesized, and combined datasets; evaluated model performance via ROUGE metrics (ROUGE-1, ROUGE-2, ROUGE-L).
- Executed and evaluated the optimized model in Google Colab, resulting in a 30% improvement in code generation performance.

LEADERSHIP EXPERIENCE

Campus Ambassador

February 2020 - March 2022

Coding Blocks

- Led 50+ coding workshops and hackathons, increasing student engagement by 38%.
- Fostered mentor-student connections, enhancing networking and community growth.

Campus Captain

September 2021 - April 2022

Coding Minutes

- Led programming workshops and hackathons with Coding Minutes mentors, growing a community of 200+ students and increasing engagement by 45%.
- Organized events and launched a peer-to-peer mentorship program, increasing participation by 60% and fostering networking opportunities with industry mentors.

VOLUNTEER EXPERIENCE

Volunteer

5th International Conference On Innovative Computing And Communication (ICICC)

Volunteer

3rd Doctoral Symposium on Computational Intelligence (DOSCI)

CERTIFICATIONS

Udemy: Python With Data Science

Udemy: Machine Learning

Coding Blocks: C++ With Data Structures and Algorithms

April 2025

June 2024

June 2021