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 — 2023 - Present
Master's of Science in Computer Science

Specialisations: Software Engineering & Intelligent Systems

Related Courses: Machine Learning, Engineering with Generative AI, Foundation of Software Engineering, Requirements Engineering, Data Visualisation, Visual Analytics.

Mahavir Swami Institute Of Technology (GGSIPU), New Delhi, India — 2018 - 2022
Bachelor of Technology - Computer Science Engineering — GPA: 1.5

Related Courses: Object Oriented Programming, Database Management Systems, Operating Systems, Data Structures, Algorithm Design & Analysis, Computer Networks.

Technical Skills

Programming Languages:	Python, C++, JavaScript, TypeScript, HTML, CSS.
Databases:	MySQL, MongoDB.
Frameworks:	Django, React.js, Svelte.
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 (Working Student) — December 2024 – Present

- Operated driving simulator to assist in data collection for an autonomous vehicle research project.
- Designed and tested realistic driving scenarios tailored to specific use cases in the development of autonomous systems.
- Developed and maintained Python scripts for processing and extracting sensor data from simulated vehicles.
- Built and refined a machine learning model to simulate human-like perception, enhancing the safety and predictability of autonomous driving systems.

Ferns N Petals, [🌐] — Gurugram, India
Associate Software Engineer - Data Science — July 2022 - June 2023

- Contributed to the development of the Auto-Tagging Tool to categorize products, created an algorithm for product categorization using machine learning and NLP techniques.
- 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.

Certifications

Udemy: Python With Data Science — April 2025
Udemy: Machine Learning — June 2024
Coding Blocks: C++ With Data Structures and Algorithms — June 2021

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

*T*ools & 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) 2022

Volunteer [ ]

3rd Doctoral Symposium on Computational Intelligence (DOSCI) 2022

ADDITIONAL INFORMATION

Languages: English (Fluent, C1), German (A2.1), Hindi (Native Speaker)

Interests: Technology trends, Cricket, Badminton, Travelling, Photography.