

# Prateek Sharma

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## OBJECTIVE

As a Master's student in Computer Science with hands-on experience in AI, Machine Learning, Data Science, and full-stack development, I leverage professional expertise in building AI-driven solutions, software automation, and data analysis. I aim to apply my knowledge in Generative AI, data analysis, and software automation to drive innovation and solve complex real-world challenges in a dynamic, collaborative environment.


## EDUCATION

- **Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau (RPTU)** October 2023 - Present  
*Master's of Science in Computer Science* Kaiserslautern, Germany
  - **Specialisations:** Intelligent Systems & Software Engineering.
  - **Related Courses:** Machine Learning, Engineering with Generative AI, Foundation of Software Engineering, Requirements Engineering, Social Web Mining, Data Visualisation, Visual Analytics.
- **Mahavir Swami Institute Of Technology (GGSIPU)** 2018 - 2022  
*Bachelor of Technology - Computer Science Engineering* New Delhi, India
  - **CGPA:** 8.85 / 10.0 (German Grade Equivalent - 1.5)
  - **Related Courses:** Object Oriented Programming, Database Management Systems, Operating Systems, Data Structures, Algorithms Design & Analysis, Computer Networks.

## SKILLS

- **Programming Languages:** Python, C++, JavaScript.
- **Web Technologies:** HTML, CSS, JavaScript, React, Django, RESTful APIs, Bootstrap, Wordpress, Elementor.
- **Database Systems:** MySQL, MongoDB.
- **Version Control:** Git, GitLab, Github.
- **Data Science & Machine Learning:** TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, OpenCV, NLTK, PCA, Autoencoder, Gensim, transformers.
- **Other Tools & Technologies:** Jira, Confluence, Jupyter Notebooks, Tableau, Power BI, Google Analytics, MS Office (Excel, PowerPoint, Word), Canva.
- **Research Skills:** Literature Review, Data Collection, Data Mining, Experiment Design, Writing, Problem-Solving, Qualitative Research, Survey Design, Analytical-Logical & Critical Thinking.

## EXPERIENCE

- **Ferns N Petals, ** July 2022 - May 2023  
*Associate Software Engineer - Data Science* Gurugram, India
  - Contributed to the development of the Auto-Tagging Tool to categorize products, created algorithms for product categorization using machine learning and NLP techniques.
  - Design & 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.
  - Built a full-stack web application using Django integrated with MongoDB, providing real-time access for business users, reducing reporting delays by 30%.
  - Prepared analytical reports and presented data-driven insights to cross-functional teams, streamlining decision-making processes.

## CERTIFICATIONS

- **Coding Blocks:** [Full Stack Web Development](#) Jan 2022
- **Coding Blocks:** [C++ With Data Structures and Algorithms](#) June 2021
- **Digiform:** [Digital Marketing](#) June 2020

## PROJECTS

### • Fine-tune LLM for Code Generation

March 2024 - April 2024

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



- Fine-tuned the Microsoft/phi-1\_5 model on the CodeParrot/ APPS dataset (10,000 Python problems) to improve code generation from natural language prompts.
- Implemented Prompt Engineering and Fine-Tuning (PEFT) with Low-Rank Adaptation (LoRA).
- Conducted iterative fine-tuning using training, synthesized, and combined datasets, with evaluation via ROUGE metrics (ROUGE-1, ROUGE-2, ROUGE-L).
- Deployed the model on AWS, improving code generation performance by 30%.

### • Online Voting System:

October 2021 - April 2022

Tools & Technologies : VS Code, Github, HTML, CSS, Javascript, PHP, MySQL, Windows.



- Developed a full-stack web application for online voting, automating the manual voting process and reducing physical effort by 70%.
- Implemented a secure user authentication system, ensuring a reliable voting process with unique IDs and passwords for voters. The Voting System maintains two levels of users, Administrator Level and Voter Level.
- Successfully deployed the project within the university, reducing voting time by 40% and increasing participation by 30%.

## INTERSHIPS

### • The Sparks Foundation: Web Developer

June 2021 - Aug 2021

Tools & Technologies : HTML5, CSS3, JavaScript, Wordpress, Elementor, Canva, Github.



- Website Management: Led the development and maintenance of a fundraising platform using Wordpress, improving user engagement and functionality.
- Used Elementor to create custom, user-friendly layouts, prioritizing ease of navigation and interaction.
- Designed and implemented graphic elements (e.g., banners, buttons) to enhance visual appeal and communicate key messages.
- Participated in team planning and requirement gathering sessions to ensure project alignment with organizational goals.

## LEADERSHIP EXPERIENCE

### • Campus Ambassador

February 2020 - March 2022

Coding Blocks



- Led coding workshops and hackathons, increasing student engagement by 38%.
- Organized 50+ programming sessions, boosting participation and skill development.
- Facilitated mentor-student connections, enhancing networking and community growth.

### • Campus Captain

September 2021 - April 2022

Coding Minutes



- Led multiple programming workshops and hackathons in collaboration with Coding Minutes mentors, fostering a coding community of over 200 students and improving engagement by 45%.
- Organized events and coding sessions, resulting in a 60% increase in participation and the successful onboarding of 150+ students into programming initiatives.
- Initiated a peer-to-peer mentorship program, enabling students to connect with industry mentors, enhancing networking opportunities, and improving community recognition within the tech ecosystem.

## VOLUNTEER EXPERIENCE

### • Volunteer

2022

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



### • Volunteer

2022

3rd Doctoral Symposium on Computational Intelligence (DOSCI)



## ADDITIONAL INFORMATION

**Languages:** English [Fluent, C1], German [A2.1], Hindi [Native Speaker]

**Interests:** Reading, Cricket, Badminton, Travelling, Photography.