PRATYUSH PULAK NISHANK

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SUMMARY

AI/ML Enthusiast and Dual Degree Student with a solid foundation in Data Science, Web Development, and Generative AI. Skilled in building full-stack AI tools using LangChain, FastAPI, FAISS, and OpenAI APIs. Proficient in C, C++, Java, Python, and SQL. Focused on turning complex AI problems into clean, working code.

EDUCATION

B.Tech in Computer Science and Engineering   **2023- Present**
Silicon University, Bhubaneswar

Bachelor of Science in Data Science and Application   **2023- Present**
Indian Institute Of Technology, Madras

RELEVANT COURSEWORK:

Completed core CS courses including Data Structures, OOP, OS, and DBMS. Specialized in AI through Machine Learning, Deep Learning, NLP, and Generative AI. Gained hands-on experience in Python, React.js, FastAPI, and LangChain, with practical exposure to full-stack development, API integration, and cloud deployment via Vercel, Render, and GitHub Actions.

PROJECTS:

--Virtual Teaching Assistant – IIT Madras Tools in Data Science
Developed a full-stack RAG-based Virtual TA using LangChain, FAISS, and OpenAI APIs to answer student queries using scraped markdown content and Discourse forum data. Implemented FastAPI as the backend and integrated EasyOCR for image-based query processing. Deployed the project on Railway Spaces using github, enabling scalable access to course-specific intelligent assistance.

--QSAR Fish Toxicity Analysis
Performed Quantitative Structure–Activity Relationship (QSAR) modeling to predict fish toxicity levels of chemical compounds using machine learning. Conducted exploratory data analysis and feature engineering, followed by model training using algorithms like Random Forest and Support Vector Machine. Evaluated performance with metrics such as RMSE and R^2 to identify the most effective predictive models.

ADDITIONAL INFORMATION:

- **Technical Skills:** Python, C++, Java, c, JavaScript, SQL
- **Frontend Development:** HTML, CSS, React.js, Next.js, Tailwind CSS
- **Backend Development:** PostgreSQL, FastAPI, Flask
- **Machine Learning & Data Science:** TensorFlow, PyTorch, NumPy, Pandas, Scikit-learn, Seaborn, Matplotlib, OpenCV, NLP
- **AI Specialization:** Generative AI, LLM Integration
- **Development Tools:** Git, GitHub, VS Code, Postman, Docker, Vercel
- **Languages:** English, Hindi, Odia