

Padmaja Mohanty

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EDUCATION

University of San Francisco – M.S. in Computer Science

San Francisco, USA | Aug 2024 - May 2027

Hazaribag College of Dental Sciences & Hospital– Bachelors in Dental Surgery

India | Aug 2016 - Jan 2022

RESEARCH PUBLICATIONS

• Nanoworld - Where Small is Big – [Research Poster Presented at International Dental Conference, BBSR, 2019]

The research study covers a comprehensive review of the usage of nanotechnology and machine learning in the field of dentistry.

I reviewed and explained the latest trends in the field and how technology can be used in various aspects of human lives.

• Mohanty, P. (2022). Training Scheme for Stereo Audio Generation. In: Panda, S.K., Rout, R.R., Sadam, R.C., Rayanoothala, B.V.S., Li, K.C., Buyya, R. (eds) Computing, Communication and Learning. CoCoLe 2022. Communications in Computer and Information Science, vol 1729. Springer, Cham. https://doi.org/10.1007/978-3-031-21750-0_21

PROFESSIONAL EXPERIENCE

DevApply –Sponsored Project ([Live App](#))

San Francisco | May2025-Aug 2025

AI-powered application tracker: GPT-4o, React, Node.js, Firebase, OpenAI, TailwindCSS, Express, Google Cloud Platform

- Collaborated with DevApply team to build an AI-powered platform to track applications, journal interviews and enhance resumes.
- Implemented interactive dashboard and real-time auth system, with AI analytics for personalized feedback and AI-mock interviews.
- Productionized and deployed backend services on Google Cloud Platform with OpenAI, Node.js/Express, and Firebase Firestore.

United Solutions Private Limited, Software Engineering Intern

Punjab, India | Feb 2022 to May 2022

Document Management System –React, Node.js, Express, MongoDB, AWS S3, Vite, Tailwind CSS, Mongoose, Typescript

- Built a robust document management system for fast & secure document storage & sharing, improving team efficiency by 25%.
- Used AWS for document storage and MongoDB to track metadata & permissions, with React for the interactive front-end interface.

I.K. Electronics, Software Development Intern

Gurgaon, India | Oct 2020 to Jan 2021

Integrated Report Generation – React, JavaScript, MongoDB, MySQL, NodeJS, AWS

- Developed an efficient Integrated Report Generation System using the MERN stack to facilitate team productivity and collaboration.
- Created a frontend for the aesthetic display of reports using React, HTML, CSS, and deployed the app to AWS for scalable access.

PROJECTS

UniversityGuideAI - LangGraph, LangChain, Groq, MCP, LangSmith, Reflection, Human in the Loop, Agentic Memory

- Built a multi-agent chatbot using LangGraph where specialized agents (Researcher, Analyst, Writer) collaborate to answer queries.
- Implemented supervisor-based and hierarchical agent architectures to dynamically assign tasks and generate structured responses.
- Integrated a reflection mechanism to improve result accuracy and safety using human in the loop for feedback on agent responses.

PaperTalks – DeepSeek, GROQ, Ollama, LangChain, FAISS, Streamlit, Python, React, Node.js, Firebase, RAG

- Built an intelligent reasoning chatbot for research papers using RAG, PDF parsing, Langchain, DeepSeek-r1, GROQ, and FAISS.
- Developed a dynamic discussion platform allowing users to tag teachers or peers in documents for enhanced collaborative learning.

Humans of Technology– GPT-4, Java, Spring, React, Firebase, Postman, MySQL, Google Cloud Platform (deployed)

- Created an interactive museum highlighting notable figures in technology, featuring AI-powered chatbots for dynamic interactions.
- Leveraged the OpenAI API to enable seamless, natural conversational interactions with virtual representations of historical personas.

Cancer Prediction Using Gene Expression Data – Python, scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, SVM, OpenCV

- Utilized scikit-learn for model implementation, achieving high accuracy with Random Forest and Support Vector Machine models.
- Conducted extensive data analysis, feature selection, and detailed visualization using Pandas, NumPy, Matplotlib, and Seaborn.

Heart Disease Prediction Using Cardiovascular Data– Python, Pandas, Scikit-learn, Matplotlib, Seaborn, SVM

- Conducted comprehensive data preprocessing, feature selection and scaling using Box-Cox transformation for skewness correction.
- Implemented detailed visualization with Matplotlib and Seaborn to analyze feature relationship, detect outliers, and identify patterns.

TECHNICAL SKILLS

Core Skills	ML, Deep Learning, NLP, Computer Vision, Medical Image Analysis, Frontend, Backend
Language & Libraries	TensorFlow , PyTorch, NumPy, Matplotlib, Pandas, React, NodeJS, JavaScript, Java ,Python, C++
Cloud & Databases	Google Cloud, AWS, Serverless, MongoDB, Firebase , CI/CD, PostgreSQL, MySQL, Docker