

Debasish Pati

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PROFILE SUMMARY

Tech enthusiast with a Bachelor's in Technology and a passion for software development. Currently thriving as a software engineer at **HAL** Bengaluru, adept at fast-paced learning. Proficient in **Python, C++, and SQL**, with a keen eye for innovative solutions and a commitment to advancing technology. Eager to contribute expertise and drive impactful projects in the dynamic field of software development.

SKILLS

- **Python** | Embedding Python | **NumPy** | Pandas | **Matplotlib** | Sci-kit Learn | Openpyxl | Tkinter
- C++ | **Ctypes** | DSA | Socket Programming | Linux
- OpenAI ChatGPT API | Streamlit | **Langchain** | Llama index | Pinecone (Vector Db)
- JavaScript | Django | **SQL** | **MongoDB** | **Json** | Git | GitHub
- Logging | V & V model | SDLC | Scripting | **Automation Testing**
- Communication | Time Management | Adaptability | Problem Solving | Teamwork | Creativity

WORK EXPERIENCE

Software Design Engineer

Aug 2023 - Present

Hindustan Aeronautics Limited (HAL), ARDC through ShripadCCPL | Bengaluru, India

- Contributed to the complete software development life cycle, spanning from conceptualization to deployment, while actively participating in continuous integration and deployment processes.
- Designed and developed a maintenance data Decoder for unmanned aerial vehicles (UAVs), optimizing algorithms and data structures for improved system performance. Achievements include reduced processing time per frame and enhanced memory management.
- Played a key role in debugging and troubleshooting, successfully resolving intricate issues to ensure the stability and reliability of software applications.
- Collaborated with cross-functional teams to analyze requirements and translated them into comprehensive design specifications.
- **Utilized C++, Python frameworks, and integrated C++ extensions with Python for the software development**
- Implemented widely used serial communication protocols, including RS-232 and RS-485, facilitating reliable data links between devices for efficient data exchange within a 10 ms time interval.

Graduate Engineer Trainee

May 2022 - Dec 2022

RIJ engineering pvt ltd | Pune, India

- Participated for the development of Transmission products with desired blend of Waterfall and Agile methodology adopting tools of Kanban & Gantt charts.

- Knowledge in Procurement and Establishment of required FTG as per selection for product developing processes.

PROJECTS

ICC Maintenance Data Decoder For UAV

- The Maintenance Data Decoder is a resilient and adaptable tool meticulously crafted to decode and interpret maintenance data in hexadecimal form, encompassing parameters such as pressure, speed, altitude, and temperature for unmanned aerial vehicles.
- Providing a lucid and actionable insight into the underlying information, this tool is especially beneficial for analysts, security professionals, and individuals working with low-level data formats where hexadecimal encoding prevails.
- At its core, the decoder excels in converting hexadecimal-encoded data into human-readable ASCII characters and numerical values, facilitating a more accessible understanding and analysis of the data.
- Essentially, the decoder takes an input data file and ICD, producing a fully interpreted CSV file as its output, streamlining the process of transforming raw data into comprehensible insights.

Technology Used:

- Python and C++
- GUI Framework Tkinter
- Hexadecimal and Binary Conversion Algorithms
- Data Integrity Check Algorithms

LLM-Powered Document Question & Answer System

- Document Q-A is an innovative project designed to revolutionize the way users interact with PDF documents.
- This application seamlessly integrates natural language processing (NLP) and artificial intelligence (AI) technologies to provide an intuitive and user-friendly experience for extracting information and gaining insights from PDF files.
- It introduces a natural language query interface that allows users to ask questions about the content of PDF documents in a conversational manner.

Technology Used:

- LLM – OPENAI ChatGPT API
- GUI- Streamlit
- APPLICATION FRAMEWORK – Llama Index
- Vector DB – Pinecone
- View in GitHub :- <https://github.com/deba2k/DocumentQ-A.git>

EDUCATION

Bachelor of Technology (B. Tech.) Mechanical Engineering

Balasore College of Engineering & Technology, Odisha, India

July 2018 - May 2022

CGPA – 8.20

CERTIFICATIONS & ACHIEVEMENTS

- **Software Design & Automation Testing** (Q spiders, Bengaluru). Jan 2023 - July 2023
- Successfully completed Hacker Rank Certification in **Python**. November 2023
View certificate :- <https://www.hackerrank.com/certificates/fab0f2dc61bc>
- Successfully completed Hacker Rank Certification in **SQL**. November 2023
View certificate :- <https://www.hackerrank.com/certificates/8998a52fde4d>
- **Gold Badge** for Java preparation, Python on **Hacker Rank**.
- Silver Badge for Problem Solving on Hacker Rank.