SWARNIM BARAPATRE

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EDUCATION

BITS, Pilani   May 2019 – Aug 2024
Dual Degree: BE Chemical Engineering + MSc Biological Sciences

WORK EXPERIENCE

Intern, Software Engineer, R&D Department, Mastersoft   Aug 2023 – Jun 2024
- Developed the Employee Productivity Measurement System from ground-up, eliminating the need for [DeskTime](#) subscriptions.
- Enhanced educational practices within the ERP by engineering a suite of OpenAI powered APIs.
- Automated the identification and mitigation of security vulnerabilites across company websites by developing a Website Vulnerability Identificatier.
- Automated operations for Azure Blob Storage and Microsoft SQL Server, resulting in reduction in operation's completion time, human effort and error surface area.
- Resolved critical Linux server issues, reducing downtime and mitigating data loss risks.

SKILLS

Languages:	Python, Go, Powershell, Bash, C, C++, Java, Pascal
Frameworks:	Flask, FastAPI, Microsoft SQL Server
Tools:	Linux, Git, Vim, Emacs, Nginx, LaTeX

PROJECTS

Employee Performance System   [Git](#)
- Designed and developed an innovative multi-tenant application for streamlined productivity tracking, reducing annual costs by **Rs 53 Lakhs** by eliminating reliance on [external services](#).
- Facilitated confident remote talent recruitment through accurate productivity metrics.
- Implemented features such as interventionless atomic app updates, a live-updating configuration system, and encrypted logs for enhanced security.
- Utilized a diverse tech stack including Python, Powershell, Pascal, and Win32 APIs.

MS-SQL Suite of Tools   [Git](#)
- Crafted a suite of tools for the Microsoft SQL Database for SQL developers and database administrators achieveing 85% time reduction in SQL task flows.
- Developed a tool to optimize memory consumption by identifying memory leaks in Stored Procedures.
- Developed tools to compare and contrast database stored procedures and SQL functions, visualizing differences via automated reports and generating alter scripts to synchronize databases.
- Leveraged Python along with a host of useful libraries such as difflib, sqlparse, and pyodbc.

Persistent Queue System   [Git](#)
- Developed a resilient queue system to automate time-intensive tasks, ensuring FIFO completion and allowing for remote task addition.
- Implemented persistence to maintain queue integrity during system crashes.
- Currently enhancing the system with optional asynchronicity for improved processing speed.
- Used FastAPI as the backend framework along with Pydantic for data validation.

OpenAI APIs   [Git](#)
- Developed a suite of APIs, harnessing the power of GPT-3.5 and GPT-4 to enhance educational practices.
- Implemented AI solutions for rubrik-based grading, SQL-driven report generation, question paper and course outcome generation to name a few.
- Used OpenAI via Python frameworks such as Flask and FastAPI with MS-SQL as the database.

Other Projects   [Git](#)
Other projects include: [golang API blueprint](#), [website vulnerability identifier](#), automation tools for Azure Blob Storage, etc.

EXTRA CURRICULARS

Swimming: Represented Maharashtra in National Championships. Multiple State Level Gold Medalist.