SWARNIM BARAPATRE

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EDUCATION

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

WORK EXPERIENCE

Software Engineer | AI Department | AccurateIC, Pune Aug 2024 – Present
- Enhanced the system architecture and co-developed software for an Autonomous Ship, to be delivered to the **Indian Navy**.
- Reduced CPU consumption by **70%** by identifying and re-writing inefficient code.
- Proposed and implemented synchronized communication between the Ship and the Control Base.
- Built backend services, including APIs, database development, authentication, etc for multiple projects.
- Worked as a full-stack developer while using technologies such as React, Express, PostgreSQL, SQLite, Tailwind, Vite, etc.

Software Engineer | R&D Department | Mastersoft Aug 2023 – Jun 2024
- Designed system architecture and developed a high-traffic product, as part of a small R&D team.
- Built asynchronous and scalable backend systems with FastAPI.
- Researched and developed backend systems in Go to assess advantages over currently used backend technologies in the organization.
- Developed internal developer tools for the database and software development teams, cutting down hours of manual effort and reducing error surface.
- Resolved critical Linux Server issues, preventing significant downtime and data loss.

SKILLS

Programming Languages:	JavaScript, TypeScript, Python, Go, Powershell, Bash, C, Pascal
Web Frameworks:	React, Express, Flask, FastAPI, Echo, Gin
Databases:	PostgreSQL, SQLite, Microsoft SQL, MongoDB
Tools/Technologies:	Linux, Emacs, Vim, Git, Nginx, LaTeX, WebSockets

PROJECTS

Employee Performance System Git
- Designed and developed a multi-tenant application for streamlined productivity tracking.
- Reduced 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 activity logs.
- 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 Server, achieveing 85% time reduction in SQL task flows.
- Developed a tool to optimize memory consumption by identifying memory leaks in the database.
- Developed tools to compare and contrast database stored procedures and SQL functions, visualizing differences via automated reports and generating alter scripts to synchronize databases.

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 as well as optional parallel queue processing.

Other Projects Git
Other projects include: OpenAI APIs, personal website using golang, golang API blueprint, website vulnerability identifier, API health monitoring system, automation tools for Azure Blob Storage, etc.

EXTRA CURRICULARS

Swimming: National Swimmer. Multiple times State Gold Medalist.