

# SWARNIM BARAPATRE

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## EDUCATION

**BITS, Pilani**

Dual Degree: BE Chemical Engineering + MSc Biological Sciences

May 2019 – Aug 2024

## 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

<b>Programming Languages:</b>	JavaScript, TypeScript, Python, Go, Powershell, Bash, C, Pascal
<b>Web Frameworks:</b>	React, Express, Flask, FastAPI, Echo, Gin
<b>Databases:</b>	PostgreSQL, SQLite, Microsoft SQL, MongoDB
<b>Tools/Technologies:</b>	Linux, Emacs, Vim, Git, Nginx, L <sup>A</sup> T <sub>E</sub> X

## 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, achieving 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.