

SWARNIM BARAPATRE

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EDUCATION

BITS Pilani <i>Bachelor's in Chemical Engineering + Master's in Biological Sciences</i>	Vasco da Gama, Goa May, 2019 — July, 2024
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PROFESSIONAL EXPERIENCE

AccurateIC <i>FullStack Software Engineer, AI Department</i>	Pune, Maharashtra Aug, 2024 — Present
<ul style="list-style-type: none">Fullstack Engineer responsible for the design and development of mission-critical software for the Indian Navy.Drive technical decision-making and architecture planning towards making the software efficient, robust & maintainable.Optimize performance and ensure reliability.Mentor & train junior developers and conduct code reviews to maintain quality and correctness.Implement standard development practices to bring in uniformity and long term maintainability of projects.	
MasterSoft ERP Solutions <i>Software Engineering Intern, R&D Department</i>	Nagpur, Maharashtra Aug, 2023 — June, 2024
<ul style="list-style-type: none">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 Golang to assess advantages & feasibility.Engineered automation tools for database and development teams, significantly reducing operational overhead.Enhanced system reliability through proactive Linux server maintenance and critical issue resolution.	

SKILLS

<ul style="list-style-type: none">Programming Languages: TypeScript, JavaScript, Python, Golang, SQL, Powershell, PascalFrameworks: React, AdonisJS, ExpressJS, Flask, FastAPI, FiberDatabases: PostgreSQL, SQLite, SQL Server, MongoDBTools: Vim, Emacs, LinuxOther Technologies: OAuth, WebSockets, Git, Nginx, LaTeX, Typst, Lucid ORM
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PROJECTS

ISACA — Intelligent Situational Awareness & Collision Avoidance Ship	Oct, 2024 — Present
<ul style="list-style-type: none">Co-developed the ISACA application that runs on the autonomous boat developed for the Indian Navy.The application includes features such as: radar overlay, obstacle & future trajectory visualization, planning routes on the world map, controlling sensor functionality (gps, radar, camera, etc), viewing camera feeds.Achieved 40% reduction in CPU consumption by refactoring inefficiencies.Proposed and implemented synchronized communication solution between the Ship and the Control Base.Developed using a tried and tested tech stack of ExpressJS, ReactJS, Tailwind, Vite and PostgreSQL.	
NeuroGen	Dec, 2024 — Present
<ul style="list-style-type: none">Designed the system architecture and database structure.Led the development of the web application from scratch.The application is a real-time IOT platform to visualise IOT devices, specifically generators.This application runs along with machine learning models in order to predict potential failures and provides alerts and recommendations.Successfully utilised a new tech stack that included AdonisJS as the backend framework along with in-built libraries for testing, validation, ORM, and authentication.	
Employee Performance System	Oct, 2023 — June, 2024
<ul style="list-style-type: none">Designed and developed a multi-tenant application for streamlined employee 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.	
MS-SQL Suite of Tools	Oct, 2023 — June, 2024

- Crafted a suite of tools for the Microsoft SQL Server meant for internal use by database developers, achieving 85% time reduction in SQL task flows.
- Developed a tool to optimize memory consumption by identifying memory leaks in the database, preventing database server crashes.
- Developed tools to compare and contrast database stored procedures and SQL functions, visualizing differences via automated reports and generating alter scripts to synchronize databases.

MS-SQL Suite of Tools

Oct, 2023 — June, 2024

- 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.

EXTRA CURRICULARS

Swimming: National Swimmer. Multiple times State Gold Medalist.