SWAPNANEEL PATRA

+91 9547106242 | swapnaneel_pa2503mth403@iitp.ac.in | linkedin.com/in/swapnaneelpatra | github.com/thisisrick25

EDUCATION

Indian Institutes of Technology (IIT) — Patna, India
Master of Technology in Artificial Intelligence & Data Science Engineering — *Aug. 2025 – Present*

Kalinga Institute of Industrial Technology (KIIT) — Bhubaneswar, India
Bachelor of Technology in Computer Science and Engineering — *June 2019 – Aug. 2023*

EXPERIENCE

Junior Software Engineer — May 2024 – Sep. 2024
EPAM Systems — *Hyderabad, India*

- Collaborated within an Agile team to deliver a scalable e-commerce web application, implementing CI/CD pipelines for iteration.
- Designed secure user authentication and role-based access control (RBAC), enhancing data privacy and platform security.
- Developed a dynamic product catalog with advanced search and filtering, improving user engagement and product discoverability.
- Built an admin module for streamlined management of user access, orders, and product listings.
- Created vendor tools for efficient product listing management and supplier onboarding.

Software Engineering Intern — Jan. 2022 – Apr. 2022
HighRadius Corporation — *Bhubaneswar, India*

- Collaborated on building a B2B invoice management system to streamline payment predictions and improve operational efficiency.
- Built and trained a machine learning model, achieving 90.43% accuracy in forecasting payment periods for B2B companies.
- Streamlined backend data retrieval using servlets and the MVC design pattern, ensuring a responsive and user-friendly interface.
- Created an intuitive Receivables Dashboard with structured grid visualization, making data more accessible and actionable.
- Implemented robust CRUD functionalities and seamless pagination, enhancing navigation and data management for users.

PROJECTS

Open Source Contributions | *JavaScript, TypeScript, Go, Python*

- **GitLab CLI (Go):** Implemented member management and GPG key features (add/remove and add/list/get/delete commands) to enable flexible user access control; merged PRs #2451 and #2456.
- **Gemini CLI (TypeScript):** Fixed chat-history consolidation to correctly merge multi-part streaming responses, preventing role desynchronization and incorrect text concatenation; merged PR #6235.
- **BrainGlobe Atlas API (Python):** Refactored atlas-generation pipeline to remove implicit orientation transforms, simplified metadata templates, and added tests/docs to improve reproducible atlas builds; merged PR #555.

3D Medical Image Segmentation | *PyTorch, MONAI, Python*

- Engineered an end-to-end segmentation framework for 3D Left Atrium MRI scans, reducing manual annotation time.
- Designed a custom data ingestion pipeline that processes raw DICOM series into normalized 3D NIfTI volumes, handling variable slice thickness and orientation.
- Trained a 3D U-Net model utilizing Dice Loss to handle class imbalance between background and region-of-interest (ROI).
- Integrated automated testing and visualization scripts to monitor training metrics (Dice score) and validate model inference quality.

TECHNICAL SKILLS

Languages: Python, Go, C/C++, Java, JavaScript, TypeScript
Frameworks: React, Next.js, Node.js
Libraries: PyTorch, TensorFlow, scikit-learn, pandas, NumPy
Developer Tools / DevOps: Git, Docker, GitHub Actions, VS Code
Other: REST APIs, Microservices, CI/CD, Unit testing (pytest, JUnit), Jupyter, Linux