Amit Patil

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Summary

Final-year ECE student with 6 months of backend and data/ML experience at Wayfair, where I built a production AI incident triage bot using a hybrid RAG pipeline (pgvector + BM25 + GPT-4o). Interested in software and ML/AI roles where I can ship reliable, data-driven systems.

Education

BMS Institute of Technology and Management *2022 - 2026*
BE in Electronics and Communication Engineering.

- CGPA: 9.34
- Relevant Coursework: Python Programming, DBMS, SQL, Machine Learning, Data Warehousing

Technical skills

Programming Languages: Python, SQL

Backend: REST APIs, PostgreSQL, Kafka, Aerospike

AI / ML: LLMs, OpenAI API (GPT-4o), RAG Pipelines, Vector Databases (pgvector), BM25

Cloud & DevOps: Azure Fundamentals, Docker, GKE, Terraform, Git, Buildkite CI/CD, Datadog

Tools & Platforms: Slack APIs, Vault, GitHub Copilot

Work Experience

Wayfair – Software Engineering Intern (Global Availability Platform): *Jan 2026 - Jun 2026*

- Built a Slack-based AI incident triage bot on GKE that uses a hybrid RAG pipeline (pgvector + BM25 + GPT-4o) over 160+ historical tickets, reducing end-to-end triage latency from ˜14.1s to ˜11s.
- Implemented and refactored inventory and availability APIs and Kafka-based streams used by the GAP on-call rotation, debugging production issues via Datadog logs, metrics, and dashboards.
- Designed and executed functional and concurrent load tests for internal suppression and incident workflows to de-risk production rollouts.

Bharat Electronics Limited Intern (PDIC): *Aug 2024 - Sept 2024*
Trainee Intern

- Utilized EDA tools such as Altera, ModelSim, and Cadence for digital circuit design, functional verification.

Projects

GAP-Bot: AI Incident Triage Assistant — Slack, GKE, PostgreSQL, OpenAI

- Built a Slack Socket Mode bot that auto-triages on-call tickets using a hybrid RAG pipeline (pgvector + BM25) and GPT-4o.
- Deployed on GKE with Cloud SQL and Datadog-based monitoring for latency and failures.

Machine Learning Model (YOLO) on FPGA (PYNQ Z2) to Control a Robotic Arm:

- Integrated a YOLOv3 object detection model onto a PYNQ Z2 FPGA, achieving a 3x speedup in image processing time vs. CPU.
- Used a hyperspectral image database to increase accuracy in detecting fruit ripeness stages for robotic arm control.

Twitter Data ETL Pipeline — Python, Airflow, AWS EC2 & S3:

- Built an ETL pipeline to extract tweets from the Twitter API, transform data using pandas, and store results in AWS S3.
- Orchestrated workflows with Airflow DAGs on EC2 with automated scheduling, retries, and basic monitoring.

Achievements and Certifications

- **Microsoft Certified:** Azure AI Engineer Associate
- Won **2nd Place** at the PBL Open Day, BMS Institute of Technology — "Ultrasonic Parametric Array"