YAJAT VINOD VISHWAKARMA

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Software engineer with 3 years of experience designing and delivering distributed backend systems and production AI pipelines. Led architecture and implementation of a computer vision platform that reduced manual processing time by over 95 percent and is actively used by enterprise clients. Strong in asynchronous workflows, GPU-backed inference systems, cloud-native deployment, and end-to-end feature ownership.

TECHNICAL SKILLS

- **Languages:** C#, Python, SQL, JavaScript/TypeScript, NodeJS
- **Backend:** .NET, ASP.NET, REST APIs, GraphQL, SocketIO, Express JS, Fastify, Flask, NGINX
- **Frontend:** Angular, Tailwind CSS, SvelteKit, React
- **Databases:** PostgreSQL, MSSQL, MongoDB, SQLite
- **Distributed Systems:** Temporal (Orchestration), Azure Service Bus, Queues, Topics, Dead Letter Queues
- **Cloud Platforms:** Azure (Blob Storage, AKS, Azure ML Endpoints), Oracle Cloud (OCI), GCP
- **AI and ML:** Grounding DINO, SAM2, OpenCV, scikit-image, AprilTags, OCR pipelines
- **Generative AI:** RAG systems (Chroma DB, Pinecone), LLM integrations (langchain, instructor, pydanticAI), Agentic AI (smolagents, stagehand)
- **DevOps:** Docker, AKS, ECS deployment, GitHub Actions, CI/CD pipelines
- **Monitoring:** Serilog, Grafana, Kibana, Loki
- **Concepts:** Horizontal scaling, async orchestration, idempotency, checksum validation, blob streaming, caching strategies
- **Methodologies:** Agile development, PR-based code reviews, SonarQube quality gates

PROFESSIONAL EXPERIENCE

Associate Software Developer | Eurofins IT Solutions | *Feb 2024 – Present*
AI Engineering Team

- Led end-to-end architecture and implementation of automated fish measurement system from **concept to production**
- Built initial prototype during internal hackathon and drove it to full enterprise deployment
- **Reduced manual batch processing time from 6 to 10 hours to 15 minutes per 80 images**
- Designed **Angular-based upload workflow** with **controlled concurrency** and UI feedback states
- Introduced and productionized **Temporal for asynchronous workflow orchestration**
- Implemented one workflow per image with horizontally **scalable worker pods on Azure Kubernetes Services**
- Integrated GPU-backed **Azure ML endpoints** and improved end-to-end inference performance by addressing endpoint throttling, tuning CPU utilization parameters, and horizontally scaling instances.
- Implemented **AprilTag-based perspective correction and morphological calibration logic**
- Built **skeletonization** pipeline using **medial axis algorithm**, to measure fish from **SAM2 masks**
- Validated accuracy on 100+ annotated samples within 10 percent of manual measurement
- Designed caching approach to prevent redundant blob downloads across distributed workers
- Presented product directly to US-based enterprise clients
- The system processes approximately 960 images per day and is designed for horizontal scalability

Archiving Team

- Contributed to distributed archival system storing study reports with **30 to 40 year retention**
- Built custom **.NET streaming uploader** handling files up to 10 GB
- Implemented checksum validation for file integrity and version control
- Integrated **Azure Service Bus queue** with dead letter handling
- Re-architected flawed email notification system:
  - Removed unreliable topic-based design, Introduced database-backed state tracking
  - Reduced notification latency from 24 hours to 5 minutes

ENGINEERING CONTRIBUTIONS AND TOOL ADOPTION at Eurofins IT Solutions

- Introduced Tailwind CSS to frontend stack to simplify styling and reduce custom CSS overhead
- Led Angular upgrade from v18 to v21 across project
- Influenced adoption of Temporal for structured async workflows instead of ad hoc task handling and manually handling states
- Owned feature delivery end-to-end including design, development, testing, UAT coordination, and production rollout and documentation
- Worked in an Agile PR-reviewed development model with zero-defect policy

Technical Cloud Consultant | Oracle | *Jul 2023 – Jan 2024*

- Built **OCR-based invoice extraction** solution using Python and OCI ML services
- Developed **VBCS interface** enabling invoice upload and structured JSON output for ERP ingestion
- Onboarded 4 enterprise clients including Berger Paints and Maersk
- Mentored 7 junior consultants over 4 months
- Conducted 2-day workshop for 30+ participants on Python and Generative AI APIs
- Built internal data transformation tools using **Python and Pandas for ODI ingestion pipelines**

KEY ACHIEVEMENTS

- Star Performer Award, Eurofins 2025 Q4
- Winner, Google Cloud and MongoDB Atlas Madness Hackathon
- Winner, International Build With AI Hackathon
- Third Place, Eurofins Technovate Hackathon
- First Place, Eurofins ShipIt
- First Place, Agro AI Hackathon

PERSONAL PROJECTS

Gift Inventory Management System | New Horizon College Of Engineering

- Architected and implemented a **full-stack inventory management system** using Svelte (frontend), Express.js (backend), and MongoDB
- Designed RESTful APIs with structured request validation, role-based access control, and modular service architecture
- Modeled MongoDB collections with indexed fields to optimize read-heavy inventory queries and reporting workflows
- Self-hosted system using NGINX as reverse proxy and PM2 workers
- Designed system to handle concurrent user operations across 500+ active users
- Reduced manual reconciliation and tracking effort by approximately 80 percent through workflow automation
- Maintained system in continuous production for 4+ years, ensuring uptime, version updates, and backward compatibility
- **Tech Stack: Svelte, Express.js, MongoDB, NGINX, PM2**

Topicular

- Designed AI-driven news aggregation and summarization platform
- Scraped sources such as TechCrunch and VentureBeat
- Implemented RAG-based summarization and personalized board feeds
- Integrated LLM APIs for content synthesis
- Deployed proof-of-concept on Cloudflare Pages
- **Tech Stack: Python, Stagehand (browser automation), Gemini Computer use API, GraphRAG, Cloudflare Pages, MongoDB, Sveltekit**

EDUCATION

Bachelor of Engineering in Computer Science | New Horizon College of Engineering | 2023 | **GPA: 8.43**
ISC & ICSE | St Paul's English School |2017 & 2019 | **10th: 90%** & **12th: 80%**