Looyas | DIGITAL MANAGED SERVICES

PFE BOOK
EDITION 2026

Empowering future talents for the digital age

www.looyas.com

ABOUT
OUR COMPANY

Looyas, built on commitment and excellence, supports Independent Software Vendors (ISVs) across the software lifecycle. We offer Fullstack SaaS, Quality Assurance, Agile development, Cloud journeys, Digital managed services, and AIOps.

With a focus on high quality, time-to-market engagement, and optimized costs, Looyas delivers tailored digital solutions that drive business innovation.

OUR VALUES

AGILITY

INTEGRITY

INNOVATION

EXCELLENCE

COMMITMENT

WHY JOIN US ?

INNOVATION

Drive change and shape the future with cutting-edge digital solutions.

EXPERTISE

Learn from the best and turn knowledge into real-world impact.

COMMITMENT

Be part of a team that values trust, collaboration, and excellence.

GROWTH

Unlock your potential through challenging projects and continuous development.

HOW TO APPLY ?

01

CHOOSE A SUBJECT

Choose the PFE subject that aligns with your interests and goals.

02

SUBMIT YOUR CV

Please send your CV, including your full name, to the email address internships@looyas.com, specifying the project reference in the subject line (e.g., QA-01)

03

PRE-SELECTION & INTERVIEW

If shortlisted, our team will arrange an interview to confirm the subject and discuss project details.

04

ONBOARDING

After approval, we'll guide you through the onboarding process.

PROJECT TOPICS OVERVIEW

CL-01: AI Agent for ITSM Automation

CL-02: Universal Inventory Collection Framework

CL-03: Cross-Cloud Mapping & Translation Engine

CL-04: Unified Migration & Deployment Engine

CL-05: Custom DNS & Certificate Management for Automated Deployment

CL-06: Accountability and Compliance Mechanics

CL-07: Building an MCP Server for Cloud Security

CL-08: Design Agent for Cloud Architecture Visualization

CL-09: MLOps for Active Agents

CL-10: Multi-Cloud Resources Viewer

CL-11: Automated DevSecOps Pipeline & Vulnerability Management System

QA-01: Smart Analyse of test reports

QA-02: Smart visual Test of web applications

QA-03: AI Tool to generate test SCENARIOS

CL-01 : AI AGENT FOR ITSM AUTOMATION

Description:

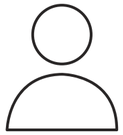
This project focuses on building an AI-driven automation agent for IT Service Management (ITSM). The agent will continuously monitor and analyze system and application logs, detect anomalies, and automatically create, classify, assign, and resolve ITSM tickets. Based on predefined rules and learned patterns, the agent will propose or execute remediation actions, with optional human approval workflows for critical operations. The goal is to reduce incident response time, improve operational efficiency, and automate repetitive IT support tasks

Technology/Tools:

- Python
- Large Language Models (LLMs) / AI agents frameworks
- Log management tools (ELK Stack, OpenSearch, or similar)
- ITSM tools (ServiceNow, Jira Service Management, or mock APIs)
- REST APIs
- Workflow engines (e.g., Temporal, Airflow, or custom orchestration)

AI/Software development Engineer

Tunis



1 profile

4 to 6 months

CL-02 : UNIVERSAL INVENTORY COLLECTION FRAMEWORK

Description:

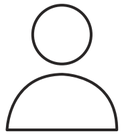
This project aims to build a provider-agnostic and extensible framework capable of discovering infrastructure resources across multiple cloud providers and on-premises environments. The system collects metadata about compute, networking, storage, databases, Kubernetes, and IAM resources, and exports the results into a canonical, normalized inventory schema. The framework is designed with a plugin-based architecture so that new providers can be added without modifying the core logic, enabling reuse across multi-cloud and hybrid environments.

Technology/Tools:

- Python or Go
- Cloud SDKs and CLIs (OCI CLI, gcloud, VMware APIs)
- REST APIs
- JSON / YAML / JSON Schema
- Graph modeling tools (for dependencies)
- Git

Cloud / DevOps Engineer

Tunis



1 profile

4 to 6 months

CL-03 : CROSS-CLOUD MAPPING & TRANSLATION ENGINE

Description:

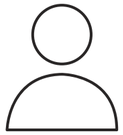
This project focuses on designing a rule-based translation engine that converts a canonical infrastructure inventory into a target cloud architecture. The engine maps generic resource definitions (networks, compute, IAM, security rules, storage) to provider-specific services and configurations, while highlighting unsupported or partially supported features. The output includes infrastructure-as-code (IaC) definitions and a detailed delta report to guide manual remediation. The solution is designed to support cloud-to-cloud and on-premises-to-cloud migrations through extensible mapping rules.

Technology/Tools:

- Terraform or Pulumi
- Python (or similar scripting language)
- YAML / JSON rule definitions
- Jinja2 or template engines
- Cloud provider documentation (OCI, GCP)
- Git and CI pipelines

Cloud / DevOps Engineer

Tunis



1 profile

4 to 6 months

CL-04 : UNIFIED MIGRATION & DEPLOYMENT ENGINE

Description:

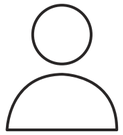
This project implements the execution layer of a generic migration framework. It consumes mapped infrastructure plans and automates the deployment of cloud resources as well as the migration of data and workloads. The scope includes virtual machine migration, database export/import with minimal downtime, Kubernetes workload migration, and object storage synchronization. The project emphasizes automation, repeatability, validation, and rollback strategies, enabling safe and efficient migrations across cloud environments.

Technology/Tools:

- Terraform / Pulumi
- Cloud migration tools (OCI Cloud Migrations, GCP Migrate, etc.)
- Database migration tools (CDC-based replication, native exporters)
- Kubernetes (GKE, OKE), Velero
- Object storage tools (rclone, cloud CLIs)
- Bash / Python scripting

Cloud / DevOps Engineer

Tunis



1 profile

4 to 6 months

CL-05 : CUSTOM DNS & CERTIFICATE MANAGEMENT FOR AUTOMATED DEPLOYMENT

Description:

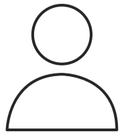
This project focuses on implementing automated DNS and certificate management as part of cloud application deployments. The system dynamically configures DNS records for deployed workloads, manages custom domain names, and uploads or provisions SSL/TLS certificates to meet security and compliance requirements. The solution integrates with deployment pipelines to ensure DNS and certificate configuration adapts automatically to new environments, regions, or cloud providers.

Technology/Tools:

- DNS providers (Cloud DNS, OCI DNS, or similar)
- Certificate management tools (ACME, cert-manager)
- Kubernetes Ingress / Load Balancers
- Terraform
- CI/CD pipelines
- Python or Bash

Cloud / DevOps Engineer

Tunis



1 profile

4 to 6 months

CL-06 : ACCOUNTABILITY AND COMPLIANCE MECHANICS

Description:

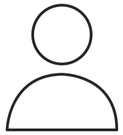
This project focuses on designing and implementing accountability and compliance mechanisms for an internal platform that manages users, subscriptions, payments, and AI or service usage models. The goal is to ensure accurate tracking of user activity, subscription plans, consumption metrics, billing events, and compliance requirements.
The system will provide dashboards to monitor user subscriptions and usage, automate billing and invoicing processes, enforce subscription rules and limits, and generate compliance and audit reports. It will also implement guardrails such as usage caps, plan-based access control, alerts for anomalies, and traceability of user actions to support financial accountability and regulatory compliance.

Technology/Tools:

- Backend development (Python, Java, or Node.js)
- Relational databases (PostgreSQL, MySQL)
- Payment and subscription systems (Stripe, PayPal, or mock billing APIs)
- REST APIs / Webhooks
- Authentication and authorization (RBAC, OAuth2)
- Dashboarding and reporting tools
- Logging and audit trail frameworks

Software development Engineer

Tunis



1 profile

4 to 6 months

CL-07 : BUILDING AI TOOL FOR CLOUD SECURITY

Description:

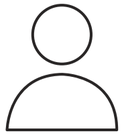
This project focuses on developing AI agents to monitor, analyze, and visualize multi-cloud infrastructures. The platform continuously evaluates cloud resources against security best practices and CIS benchmarks, detecting misconfigurations, open ports, IAM risks, and availability issues. AI agents generate actionable recommendations to improve security posture, ensure compliance, and optimize infrastructure management across cloud providers.

Technology/Tools:

- Python
- MCP / agent orchestration frameworks
- Cloud security tools and APIs
- CIS benchmarks
- Data visualization tools
- Cloud SDKs (OCI, GCP, etc.)

AI/Cloud / DevOps Engineer

Tunis



1 profile

CL-08 : DESIGN AGENT FOR CLOUD ARCHITECTURE VISUALIZATION

Description:

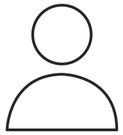
This project aims to build an intelligent design agent that automatically generates clear and scalable cloud architecture diagrams. Based on user input or infrastructure inventory, the agent visualizes system components, service dependencies, and data flows across cloud environments. The tool helps engineering teams design, review, document, and communicate cloud architectures efficiently and consistently.

Technology/Tools:

- Python
- Diagram generation tools (Mermaid, PlantUML, Draw.io APIs)
- LLMs / AI agents
- Cloud architecture patterns
- Web UI frameworks (optional)

AI/Cloud / DevOps Engineer

Tunis



1 profile

4 to 6 months

CL-09 : MLOPS FOR ACTIVE AGENTS

Description:

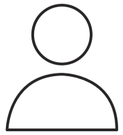
This project implements an MLOps pipeline to monitor, manage, and maintain active AI agents running in production. It focuses on continuous data collection, validation, performance monitoring, metrics tracking, and alerting. The system ensures that agent behavior remains reliable, observable, and auditable, enabling proactive issue detection and efficient lifecycle management for AI-driven systems.

Technology/Tools:

- Python
- MLflow or similar experiment tracking tools
- Prometheus / Grafana
- CI/CD pipelines
- Data validation frameworks
- Kubernetes (optional)

MLOps / Data Engineer

Tunis



1 profile

4 to 6 months

CL-10 : MULTI-CLOUD RESOURCES VIEWER

Description:

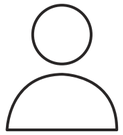
This project delivers a unified dashboard that provides real-time visibility into resources across multiple cloud providers. The platform aggregates information about compute, storage, networking, and usage metrics, allowing users to monitor assets, analyze consumption, and manage resources from a single interface. The solution improves operational awareness and simplifies multi-cloud management.

Technology/Tools:

- Backend: Python / Node.js
- Frontend: React / Vue.js
- Cloud provider APIs (OCI, GCP)
- Databases (PostgreSQL, NoSQL)
- REST APIs
- Authentication and RBAC

AI/Software development Engineer

Tunis



1 profile

4 to 6 months

CL-11 : AUTOMATED DEVSECOPS PIPELINE & VULNERABILITY MANAGEMENT SYSTEM

Description:

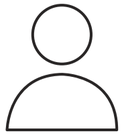
This project focuses on designing and implementing an automated DevSecOps pipeline for a cloud-native SaaS platform. Security controls are integrated throughout the software development lifecycle, including source code analysis, dependency scanning, container image security, and runtime vulnerability detection. Vulnerability data is centralized to provide continuous security visibility, support compliance requirements, and improve risk management without slowing down software delivery.

Technology/Tools:

- CI/CD platforms (GitLab CI, GitHub Actions, Jenkins)
- SAST / DAST tools
- Dependency and container scanners (Trivy, OWASP tools)
- Kubernetes
- Security dashboards
- Python / Bash

Cybersecurity Engineer

Tunis



1 profile

4 to 6 months

QA-01: SMART ANALYSE OF TEST REPORTS

Description:

Design and implement an AI tool based on open source LLM model to analyze software application logs and reports.

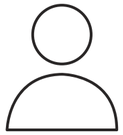
- Benchmark open source and commercial models
- Optimize model (training, fine tuning, RAG, …)
- Generate an intelligent summary of anomalies and trends

Technology/Tools:

- NLP + Python + Elasticsearch/Kibana.

AI/Software development Engineer

Tunis



1 profile

4 to 6 months

QA-02: SMART VISUAL TEST OF WEB APPLICATIONS

Description:

Design and implement an AI tool based on open source LLM model to detect visual anomalies on web applications.

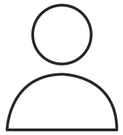
- Benchmark open source and commercial models
- Optimize model (training, fine tuning, RAG, …)
- Integrate with visual frameworks to detect visual anomalies and analyze them: (misalignment, color, position…)

Technology/Tools:

- ·Selenium + OpenCV + TensorFlow ou Playwright + AI Vision.

AI/Software development Engineer

Tunis



1 profile

4 to 6 months

QA-03: AI TOOL TO GENERATE TEST SCENARIOS

Description:

Design and implement an AI tool based on open source LLM model to generate test scenario.

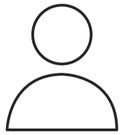
- Benchmark open source and commercial models
- Optimize model (training, fine tuning, RAG, …)
- Retrieve function requirements, user stories from different sources such JIRA, specification document …
- Generate different test case, accordingly to the functional requirements
- Export Test scenario to different test took such as squashTest, testlink, mantis…
- Give the possibility to fine tune the model for different business cases

Technology/Tools:

- Python / Java/ NLP, NLTK, spaCy/ scikit-learn, TensorFlow, PyTorch/ Git, SquashTest, Jira

AI/Software development Engineer

Tunis



1 profile

4 to 6 months

JOIN US !

Join us to transform your academic project into a professional experience.

Technopark Manouba 2010 - Tunisia

www.looyas.com

internships@looyas.com

+216 70 241 449