

# ANGELOS PANAGIOTOPOULOS

Email: [angelospanag@protonmail.com](mailto:angelospanag@protonmail.com)

Website: <https://www.angelospanag.me>

GitHub: @angelospanag

## BACKEND DEVELOPMENT

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Programming Languages	Go, Python
Web Frameworks	Huma (Go); FastAPI, Django (Python)
Dependency Management	Go modules (Go), uv (Python)
Data Handling and Analysis	Pydantic, Pandas, NumPy, GORM, SQLAlchemy, Alembic, sqlalchemy
Scheduling and Messaging	RabbitMQ, Apache Kafka, AWS SQS/SNS, Celery
Linting/Formatting/Type Checking	golangci-lint (Go); ruff, mypy (Python)
Documentation	OpenAPI, Markdown
Testing	Testcontainers, testify (Go), pytest (Python)

## FRONTEND DEVELOPMENT

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Programming Language	TypeScript
Runtime	Node.js
Dependency Management	pnpm, npm
Frameworks and Libraries	React, Next.js (App Router), Vite, Tanstack Router, Tanstack Query
Styling and Component Libraries	Tailwind CSS
Client Generation	Orval
Linting & Formatting	eslint, Prettier

## DATABASE AND DATA VISUALIZATION

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Databases	PostgreSQL, MySQL, Neo4j, Elasticsearch, AWS DynamoDB
ORM & Migrations	GORM, sqlc (Go); SQLAlchemy, Alembic (Python)
Data Visualization and Network Analysis	Cytoscape.js, D3.js, NetworkX

## DEVOPS/DEPLOYMENT/CLOUD

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Containerization and Orchestration	Docker, AWS ECS/Fargate
Infrastructure as Code	AWS CDK, Terraform, terraform-exec
CI/CD	GitLab CI/CD, GitHub Actions, CircleCI
Cloud Platforms	AWS (Certified Developer - Associate), GCP
Operating Systems	MacOS, GNU/Linux (Ubuntu, Debian), Windows/WSL2

## MONITORING AND LOGGING

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Monitoring Tools	Grafana, AWS CloudWatch
Structured logging libraries	slog (Go), structlog (Python)

## AGILE METHODOLOGIES

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Agile Practices	Scrum, Kanban
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## WORK EXPERIENCE

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### Stadion

*Backend Engineer (Go/Python)*

April 2025 - Current

*London, UK*

- Built and maintained **AWS backend systems** for live tennis data, with ingestion pipelines on **Lambda/S3**, backend services on **ECS Fargate**, and **RDS MySQL**.
- Stabilised ingestion of external partner data for **high-profile tennis tournaments through finals**, handling heavy traffic with **zero incidents**.
- Migrated **mission-critical live data paths** from Python (Flask) to Go, reducing **CPU/memory usage** and **ECS costs** while increasing throughput.
- Re-architected a latency-prone multi-service pipeline into streamlined Go services for **live data delivery**, improving performance and maintainability.
- Reduced response times from **~20 seconds to milliseconds** and optimized **MySQL queries** with **GORM** and **raw SQL**.
- Fixed broken **database migrations**, improving reliability and maintainability of the data layer.
- Reimplemented proper **OAuth2** flows using long-lived access tokens for fetching image assets from external providers, reducing excessive requests and improving service reliability and performance.
- Reduced **JSON response payloads by up to 95%** for website and mobile clients, lowering latency and bandwidth for high-traffic endpoints.
- Designed and tuned **CloudFront caching strategies** for live scoring endpoints.
- Upgraded services to **Go 1.25** and **Python 3.13–3.14**.
- Documented APIs using **code-first OpenAPI** with **Go/Huma**.
- Introduced **structured logging** and leveraged **CloudWatch queries** to monitor performance and track live pipelines.
- Implemented **CI/CD pipelines** in GitLab and GitHub, with automated linting, formatting, unit, and integration tests (**Testcontainers**).
- Standardised **Go** quality with **golangci-lint**; improved **Python** developer experience with **uv** and **Ruff**.
- Implemented **multi-stage Docker builds** for Go and Python services, reducing image sizes and accelerating ECS deployments.

### Elsewhen

*Freelance Cypher Python Engineer*

February 2025 - April 2025

*London, UK*

- Designed RESTful APIs in **Python (FastAPI)** to support audience targeting and insight generation for advertising initiatives.
- Designed and executed **data migration pipelines** between relational and graph databases, ensuring data integrity.
- Integrated and managed data across **Neo4j** and **PostgreSQL**, using graph models to represent complex relationships.
- Implemented robust data access using **SQLAlchemy** with **Alembic** for version-controlled schema migrations.
- Enforced code quality with **ruff** for linting/formatting and **mypy** for static type checking.
- Built interactive **React + Cytoscape.js** graph visualisations to surface insights and support analysis.
- Presented progress through live demos and stakeholder reviews, incorporating feedback into sprint planning and technical direction.

### Accenture

*Application Lead/Full Stack Engineering Associate Manager*

October 2022 - February 2025

*London, UK*

- Led development of internal security platforms for **CVE reporting** and **red-team infrastructure automation**.
- Built backend APIs in **Python (FastAPI)** and **Go (Huma)**, with **OpenAPI-based documentation** and type-safe client generation via **Orval**.

- Integrated **Terraform (terraform-exec)** and **RabbitMQ** to enable scalable, asynchronous infrastructure workflows.
- Developed **React/TypeScript** frontends using **Next.js** and **Vite (TanStack Router)**, styled with **Tailwind CSS**.
- Implemented **JWT authentication** with **AWS Cognito** and **Azure Entra**, supporting MFA and custom authentication flows.
- Designed data layers using **PostgreSQL**, leveraging **SQLAlchemy (Python)** and **sqlc (Go)** for robust data access.
- Deployed containerized services on **AWS Fargate** and built serverless pipelines with **Lambda, SNS, and SQS**.
- Defined infrastructure as code using **AWS CDK (TypeScript)** for repeatable, streamlined deployments.
- Implemented **GitLab CI/CD pipelines** for automated testing and deployments.
- Visualised infrastructure relationships using **Cytoscape.js** to improve system clarity and operability.
- Mentored junior engineers across backend development, system architecture, and DevOps best practices.

### **Infinity Works (part of Accenture)**

April 2021 - September 2022

*Senior Consultant*

*London, UK*

- Built a document ingestion and search platform to improve data retrieval for an insurance client.
- Refactored legacy systems into scalable **Python (FastAPI)** APIs, deployed on **AWS ECS/Fargate** with **PostgreSQL** and **Elasticsearch**.
- Leveraged Elasticsearch features such as phrase matching, advanced queries, and filtering; led index migrations to optimized schemas.
- Implemented OCR ingestion using **Apache Tika** with **SQS**-driven, containerized pipelines.
- Implemented **JWT authentication** and **structured logging (structlog)**, and integrated **Grafana** for monitoring and alerting.
- Improved frontend UX using **Next.js** and **TypeScript**.
- Implemented **GitHub Actions CI/CD** with automated testing and linting (**pytest**, **black**, **flake8**).
- Defined infrastructure with **Terraform** and mentored engineers on modern Python, containerization, and testing best practices.

### **KPMG UK**

July 2019 - February 2021

*Senior Software Engineer*

*London, UK*

- Delivered technical solutions for finance clients as part of a management consulting team.
- Led integration with external JSON APIs (e.g., Companies House, Equifax), storing and analyzing data in **Neo4j** using **NetworkX**.
- Built an interactive web-based network visualization tool with **FastAPI**, **React**, and **D3.js**.
- Developed a rule-based loan approval engine and automated report generator using **Python (Flask)** and **openpyxl**.
- Designed and implemented secure authentication flows for internal and external users.
- Coordinated with stakeholders to define schemas and ensure seamless API integration.
- Acted as team lead and mentor, supporting engineers and apprentices in backend, frontend, and data development.

### **MediaMath**

August 2017 - July 2019

*Software Engineer*

*London, UK*

- Developed custom integrations with an **ad-exchange platform**.
- Led real-time tracking of advertising entities using **Go**, **Kafka**, and **PostgreSQL** for downstream processing and third-party notifications.
- Built scheduling and workflow systems for campaigns and bidding strategies with **Python (Flask)**, **Celery**, and **PostgreSQL**.

- Guided an offshore team on architecture, best practices, and deployment of a greenfield bidding automation and forecasting platform.

### Sainsbury's

*Software Engineer*

May 2016 - July 2017

*London, UK*

- Contributed to the **Groceries On Line** and **Entertainment On Demand** teams at Sainsbury's, delivering backend services for high-traffic e-commerce platforms.
- Built backend microservices for grocery shopping features—product placement, basket management, and payments—using **Go**, **Gorilla**, and **Kong**.
- Developed backend systems for electronic media sales and payment integration, including refunds, using **PHP (Slim)** and external payment gateways.

### Telemetry

*Software Engineer*

February 2015 - May 2016

*London, UK*

- Contributed to a **Telemetry SaaS platform** for advertising metrics and fraud detection, automating metric queries and generating reports for vendors.

### Aubay

*Software Development Engineer for Amadeus IT Group*

November 2012 - June 2014

*Sophia Antipolis, France*

- Developed backend web services for airline group reservations, including **segment-based quotations** and **business rules** such as child discounts and location-based pricing.

## EDUCATION

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### University of Southampton

*MSc Software Engineering (Merit)*

September 2011 - September 2012

*Southampton, UK*

### University of Piraeus

*BSc Digital Systems / Communication Systems and Networks (2:1)*

September 2005 - July 2010

*Athens, Greece*

### American College of Greece

*Secondary school (18.3/20)*

September 1999 - July 2005

*Athens, Greece*

## OTHER EXPERIENCE

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### Personal Website

<https://www.angelospanag.me>

- Developed and maintain a personal website using **Next.js** and **Bun**, customized from a starter template, with automated deployment on **Vercel** and a custom domain via **Namecheap**.
- Source code available on GitHub: <https://github.com/angelospanag/my-personal-site>.

### WordPress photography blog

<https://jimpanagphotography.wordpress.com>

- Created and maintain a WordPress photography blog for my father.

### Military service at the 2nd Battalion of Fighting Helicopters

*Private*

Nov 2010 - Aug 2011

*Greece*

- Military Occupational Specialty (MOS): Clerk/Computer operator

## NON-TECHNICAL

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- Languages: English (bilingual proficiency), French (professional working proficiency), Greek (native)
- Dual citizenship (British, Greek)
- European driving licence