Vasileios Armaos

LinkedIn profile: https://www.linkedin.com/in/armaos/

Patras, Greece
+30 698 027 0323
vasileios@armaos.info

EXPERIENCE

Valuedriven - *Lead Backend Engineer*

2024 - 2026

- Owned backend architecture and development for PensionCraft's investment tools, delivering Django REST APIs for portfolio backtesting, risk analysis and Monte Carlo simulation.

- Migrated annual fund data to daily feeds, preserving 2,200+ saved portfolios across 1,700+ instruments and enabling currency- and inflation-adjusted backtesting.

- Designed JWT-based WordPress SSO with per-user access controls; led React frontend integration through API design, documentation and code review.

- Operated the backend on Google Cloud Run and Cloud SQL with shared caching and exponential-backoff retries. Established Docker development environments and GitLab CI/CD for staging and production.

Easy Diavgeia - *Founder, Solo Dev*

2023 - 2025

- Independently architected, built and operated a full-stack SaaS search platform serving ~12k annual active users and ~1,000 registered accounts, indexing 75M+ Greek public-sector documents in Elasticsearch (350+ GB).

- Built asynchronous ingestion pipelines with revision handling, bulk indexing and retries, integrating selective OCR and text repair for 1M+ scanned or malformed PDFs.

- Designed Greek full-text search with phrase/proximity boosting, recency weighting and query-aware snippets, achieving ~380 ms p95 production search latency.

- Delivered subscription-aware APIs with authentication, Stripe billing, quotas and deduplicated email alerts. Owned CI/CD, infrastructure migration, automated snapshots, error monitoring and worker health checks.

Raymetrics - *Senior Backend Engineer*

2022 - 2023

- Architected the backend control platform for Raymetrics' atmospheric LiDAR systems, abstracting lasers, telescopes, hatches and other heterogeneous hardware behind FastAPI services.

- Designed command-routing and orchestration layers that composed low-level hardware operations into high-level workflows such as measurements and scheduled acquisition sequences.

- Designed Django APIs and persistence for LiDAR measurement data, separating database-backed services from lightweight, independently deployable hardware-control services.

- Defined OpenAPI contracts for frontend integration, enabling a unified control interface to replace multiple component-specific applications.

EDUCATION

University of Cambridge
Master's - *Theoretical Physics & Applied Mathematics*

2016 - 2017

Theoretical Particle Physics, General Relativity and Cosmology.

University of Patras
PhD - *Quantum Computing & Atmospheric Physics*

2020 - 2024

Research in quantum computing, computational modelling and atmospheric dynamics.

University of Patras
Bachelor's - *Physics*

2012 - 2016

Specialized in Theoretical Physics. Thesis on Cosmological Perturbations. Top 1% of class.

SKILLS

Programming Languages
Python, C++.

Backend Technologies
Django REST Framework, FastAPI, PostgreSQL, Elasticsearch, Celery

Cloud & Infrastructure
Docker, GCP (Cloud Run, Cloud SQL, Cloud Storage), GitLab CI/CD

Scientific Computing
NumPy, SciPy, pandas, numerical modelling, numerical optimisation

LANGUAGES

English - Fluent
Greek - Native speaker
Spanish - Elementary proficiency
French - Elementary proficiency

Avlos - *Senior Backend Engineer*

2021 - 2022

- Designed DRF APIs for MyHealthBook's health record sharing model, separating record collections from recipient specific access grants with secure PIN access, expiry and revocation.

- Implemented transactional bulk sharing workflows with Celery based notifications, ensuring invalid requests could not leave partially created access grants.

- Built authorized asynchronous PDF exports and consolidated record attachments into a shared S3 backed file library, simplifying the persistence model and file lifecycle.

- Developed reusable Pytest factories and fixtures covering sharing permissions, expiry, invalid batches and external service interactions.

Tale - *Backend & Infrastructure Engineer*

2020 - 2021

- Decomposed a Python text-analytics monolith into three Dockerized services for authentication, NLP processing and interactive analysis, enabling independent deployment.

- Migrated persistence from SQLite to PostgreSQL and redesigned project-version storage using content-hash deduplication, compression and Cloud Storage for large artifacts.

- Operated production infrastructure on GCP with managed instance groups, load balancers and health checks; introduced pytest regression/integration testing and GitLab CI, and diagnosed production issues including a cloud-storage filesystem memory leak.

PiDust - *Cofounder, Lead Quantum Software Engineer*

2019 - 2020

- Conceived and implemented the initial QEB-ADAPT-VQE approach for molecular ground-state estimation, leading to a 2021 publication.

- Led development of Python VQE workflows using Psi4, OpenFermion and Qiskit, including Hamiltonian preparation, ansatz construction, optimisation and simulation.

- Designed new optimisation methods for VQE and built a Django/WebSocket prototype for molecular simulations, benchmarking up to 20 qubits across 14 molecules against classical CCSD results.

Cambridge Quantum Computing - *Quantum Software Engineer*

2017 - 2018

- Co-designed and prototyped early architecture for CQC's t|ket⟩ quantum compiler, exploring compiler abstractions and LLVM IR extensions for representing and transforming quantum programs.

- Built C++ and Python prototypes to evaluate quantum algorithms, programming models and candidate compiler technologies, including OpenCL, for early quantum hardware.

SELECTED PUBLICATIONS

Quantum Computing and Atmospheric Dynamics: Exploring the Lorenz System
2024

Efficient Parabolic Optimisation Algorithm for adaptive VQE implementations
2022

Qubit-excitation-based adaptive variational quantum eigensolver
2021

Computational chemistry on quantum computers - Ground state estimation
2020

AWARDS

Startups.d.Day, 2nd place - SEPE - 2019

Startup competition held as part of the Digital Economy Forum.

Postgraduate Scholarship - Academy of Athens - 2016

Competitive scholarship for graduate studies.

Undergraduate Scholarship - State Scholarships Foundation -2014

Competitive scholarship for undergraduate studies.