ODYSSEAS TSAKAI

Senior Principal Engineer | System Architect | AI/Data Infrastructure

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PROFESSIONAL SUMMARY

Medical AI systems architect who delivers complete production platforms from day one: database design, application code, server and firewall configuration, Cloudflare, deployment, and go-live. Track record of national-scale systems processing 100M+ documents and serving entire cities in regulated healthcare, government, and finance, often as the sole technical resource

Core Impact & Scale:

- **Volume:** 100M+ documents processed, 20,000+ concurrent healthcare users
- **Reliability:** 99.9% uptime on critical government infrastructure
- **Performance:** 85% improvements through architectural optimization
- **Compliance:** GDPR-compliant systems, healthcare regulations expertise

TECHNICAL EXPERTISE

Languages:	Python, JavaScript/TypeScript, PHP, Java, C/C++, C#
Cloud & DevOps:	AWS, Azure, Docker, Kubernetes, CI/CD, Microservices Architecture
AI/ML:	TensorFlow, PyTorch, Detectron2, Mask R-CNN, Computer Vision, NLP
Databases:	MongoDB, MySQL, PostgreSQL, Redis, Hyperledger Fabric
Frameworks:	Laravel, React/React Native, Node.js, Yii2
Specializations:	Medical AI, Real-time Systems (Socket.io), Blockchain

PROFESSIONAL EXPERIENCE

Senior Developer | AI Operations • Innovation Hub

Real Consulting | Ioannina, Greece | 2026 - Present

Building a full-stack medical application with SAP integration plus custom LLM and RAG pipelines, working within a cross-functional engineering team.

Architect | Senior Data Analyst

D2A M.I.K.E | Greece | 2025 - Present

Architect designing ETL pipelines and data platforms processing 5M+ records daily from Eurostat and national statistical sources into PostgreSQL, serving government ministries and enterprise BI.

AI Partner & Technical Advisor

Vidavo | Greece | 2025 – July 2026

Leading AI strategy across healthcare and government, building RAG pipelines for ICD-10 medical coding (HΔIKA), LLM integration, and architecture for Azure-based government data infrastructure.

Senior Principal Engineer - Technical Lead

Q Base R&D | Ioannina, Greece | 2020 - 2026

Sole architect across national-scale production systems in healthcare, government, energy, and blockchain, processing 100M+ documents, serving 20,000+ users, delivering €2M+ in project value.

Built end-to-end: Azure government data platform, AI medical imaging (Detectron2, 95% accuracy), real-time energy monitoring (1M+ daily readings), and Hyperledger supply chain.

Senior Software Engineer

ALXO I.K.E. | Greece | Jan 2024 - Jun 2024

Led 6-month technical transformation of a legacy digital services platform, including backend refactoring, CI/CD modernization, and engineering team practices.

Software Engineer

Q Base R&D | Ioannina, Greece | 2016 - 2020

Built production systems in WebRTC, computer vision (Mask R-CNN), and cross-platform health apps. Sole developer of epropsi.gr, a medical platform serving 20,000 patients across Ioannina.

Enerwise - Energy Monitoring Platform (2024-2025)

Lead Developer | app.enerwise-project.gr

- Architected cloud-based platform monitoring energy consumption for 50+ educational facilities
- Implemented hybrid MongoDB/MySQL architecture handling 1M+ daily sensor readings
- Developed real-time data streaming with Socket.io

Tech Stack: Laravel, MongoDB, MySQL, Redis, Socket.io, Docker

Government Open Data Aggregation Platform (2024-2026)
Sole Architect - Multi-Source Government Data Integration

- Built Azure-based platform aggregating data from all major Greek government sources (DIAVGEIA, GEMI, Bank of Greece, ESIDIS)
- Engineered multi-threaded PDF extraction & analysis processing 100M+ documents
- Designed concurrent data collection achieving 12x performance improvement
- Built hybrid MongoDB/MySQL architecture for terabyte-scale document storage
- Integrated with Microsoft Fabric OneLake via Azure Data Factory for unified analytics
- Created 100+ page interface for cross-platform data analysis and visualization

Tech Stack: Azure VM, Azure Data Factory, Microsoft Fabric, MongoDB, MySQL, Yii2, Multi-threading, PDF Analysis

Deep in Biopsies - AI Medical Imaging Platform (2023-2024)

Technical Lead

- Designed three-tier AI platform for automated biopsy analysis with 95% accuracy
- Built annotation system processing 100K+ medical images using Konva.js
- Implemented Mask R-CNN models achieving 0.89 mAP for tissue segmentation
- Integrated RESTful APIs connecting Python AI engine with Laravel backend

Tech Stack: Python, Detectron2, Laravel, MongoDB, JavaScript, REST APIs

Origin-Roots - Blockchain Supply Chain (2021-2022)

Technical Lead / Blockchain Engineer

- Developed blockchain-based traceability system for agricultural products
- Implemented Hyperledger Fabric smart contracts processing 10K+ transactions/day
- Created web platform serving 5K+ farmers and distributors

Tech Stack: Hyperledger Fabric, Yii2, PHP, JavaScript, MySQL

Ε.ΠΡΟ.ΨΥ.Η. Medical Platform Sole Technical Architect & Developer (2018-2022) | epropsi.gr

- **Built complete medical infrastructure serving 20,000 active patients in Ioannina**
- Designed and developed entire backend system handling sensitive medical data at scale
- Created full administrative (secretariat) system from zero, streamlining operations for medical staff
- **Impact**: Enabled mental health services for entire city population as sole technical resource

Tech Stack: Yii2, MySQL, PHP, Healthcare compliance standards

ODKE.gr - National Basketball Referees Platform (2020-2025) | odke.gr
Architect & Developer | ACTIVE PRODUCTION

- Built complete digital infrastructure for Greece's official basketball referee federation
- Architected content management system coordinating with FIBA international standards
- Platform manages national referee certifications, training, and regulatory compliance
- 5+ years continuous operation serving national sports administration

Tech Stack: Yii2, MySQL, PHP, Multi-user authentication

Solareye - Solar Energy Monitoring Platform (2020-2025) | solareye.eu
Senior Software Engineer - Performance & Infrastructure

- **Optimized 400GB MySQL database handling solar installation monitoring data**
- Restructured queries achieving 90% performance improvement under high load
- Implemented Redis caching layer reducing database pressure 50%
- Added API endpoints enabling third-party integration with monitoring data

Tech Stack: PHP, MySQL, Redis, Apache HTTP/2

Additional Projects:

- **MedAL** (2020-2021): Cross-platform health monitoring app with 10K+ downloads
- **X-Balloon** (2019-2020): ML platform for liver disease diagnosis using Mask R-CNN
- **Silver Wellbeing** (2019-2020): EU Interreg project for elderly care technology
- **MilaMou** (2017-2018): WebRTC communication platform with real-time video/audio

EDUCATION

PhD in Computer Science (2020-2025)

University of Ioannina, Greece | *Research: AI Applications in Distributed Systems, Optimized Computer Vision Techniques Using Convolutional Neural Networks*

Master of Science in Computer Science & Networks (2017-2020)

University of Ioannina, Greece | **GPA: 9.0/10 (With Distinction)**

Bachelor of Science in Computer Engineering (2012-2016)

TEI of Epirus, Greece | **GPA: 8.5/10 (With Honors)**

CERTIFICATIONS & ACHIEVEMENTS

- Technical Leadership: Delivered €2M+ in project value as sole/lead developer
- Scale: Built systems serving 20,000+ concurrent users with 99.9% uptime
- Published 3 first-author papers including scalable ML architectures; 9 total publications
- Open-source contributor to multiple ML projects
- Hackathon winner - Greek Innovation Challenge 2022

LANGUAGES

- **English:** Professional Working Proficiency
- **Greek:** Native/Bilingual Proficiency
- **Albanian:** Native

KEY COMPETENCIES

- **Technical Leadership:** Led small engineering teams (up to 5) while simultaneously operating as sole architect across multiple concurrent production systems.
- **Problem Solving:** Reduced system latency by 70% through architectural optimizations
- **Innovation:** Implemented novel AI solutions improving diagnostic accuracy by 25%
- **Communication:** Presented technical solutions to C-level executives and stakeholders
- **Agile/Scrum:** Experienced in sprint planning, iterative delivery, and cross-functional coordination across concurrent projects

SEEKING

Principal Engineer / Staff Engineer / Technical Lead/ Senior Full-Stack positions at companies solving complex technical challenges at scale. Open to:

- **Location:** Remote (global), Hybrid, or Relocation (EU/UK/US)
- **Industries:** Tech scale-ups, Enterprise software, Healthcare tech, Fintech
- **Focus Areas:** System architecture, AI/ML infrastructure, Data engineering
- **EU Advantage:** EU citizen - no visa restrictions for European positions