Apostolos-Nikolaos Rigas

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Professional Experience

AI Software Engineer Sep 2024 — Feb 2025
Omilia *Athens, Greece*

- Partnered directly with clients and product teams to gather requirements and design user-centric chatbot dialogue flows, enhancing natural language understanding (NLU) via LLMs and driving significant gains in user engagement and task automation.
- Led debugging and optimization of core JavaScript logic, implementing rigorous unit and regression testing pipelines to ensure stability and scalability across multiple AI-driven application updates.
- Designed and deployed 10+ tailored conversational workflows, leveraging intent classification, slot filling, and contextual dialogue management, resulting in a 35% increase in task completion rates and improved user satisfaction.

Science, Technology, Engineering, and Math Teacher Jan 2024 — Jun 2024
Three Hierarchs Academy of Arizona *Florence, AZ*

- Designed and delivered interactive STEM lessons to over 120 students, increasing class engagement scores by 40% through hands-on experiments and real-world problem solving.
- Boosted student performance by 25% on average in end-of-term assessments by integrating visual learning tools, coding modules, and personalized mentoring.
- Made use of various teaching paradigms such as “differentiated instruction”, “flipped classroom” and “Socrate’s elicitation method”.

Software Engineering Intern Apr 2022 — Jun 2022
Couponology *New York City, NY*

- Contributed to the development of 7+ RESTful APIs using .NET during a fast-paced internship, improving backend response times by 30% and supporting system-wide integration.
- Collaborated on front-end enhancements in React, and reducing UI load latency by 40% for a smoother user experience.

Junior Developer Dec 2021 — Apr 2022
Epafos *Athens, Greece*

- Assisted in debugging C# and database issues in a legacy education management system, helping maintain stable performance for long-term clients.
- Implemented client-requested features and small enhancements, contributing to the ongoing usability and relevance of the product.

Electrical Engineer Intern Jun 2020 — Sep 2020
Gouverneto Monastery *Chania, Greece*

- Designed and implemented custom medium- and low-voltage switchgear systems, enhancing electrical reliability across historic infrastructure.
- Upgraded legacy wiring and distribution panels to modern standards, improving safety and reducing downtime risks in a high-humidity coastal environment.

Education

University of Thrace Oct 2024 — Nov 2025 (expected)
Master's in Applied Bioinformatics & Data Analysis *Alexandroupolis, Greece*

- Thesis: Predicting Mental Disorders via the Gut–Brain Axis Microbiome using Interpretable Fuzzy DNN (expected)

University of West Attica in cooperation with University of Limoges Oct 2024 — Oct 2025 (expected)
Master's in Artificial Intelligence & Computer Vision *Athens, Greece - Limoges, France*

Technical University of Crete Sep 2013 — Nov 2023
Integrated Master's in Electrical Engineering & Computer Science (MEng ECE) *Chania, Greece*

- Thesis: Development of a Virtual Reality Game to Reinforce Teaching of Binary Arithmetic System
- https://doi.org/10.26233/heallink.tuc.98033

IEK Omiros Sep 2024 — Jun 2026 (expected)
Diploma in Graphics Design and 3D Animation *Athens, Greece*

ASPAITE and EPEK Athena Sep 2023 — Jun 2025
Diploma in Education, Andragogy and Special Education *Thessaloniki, Greece*

Self-Directed Projects

Catch 22: Typst-based Resume with GitHub Workflows

- Created a fully automated, version-controlled Typst resume pipeline using GitHub Actions, compiling the source into a PDF on every commit[1].
- Embraced the meta: the resume describing the project is built by the project itself.

Technoethics: Bias, Transparency, Accountability, AI

- Conducted a comprehensive literature review and critical analysis on the technoethics of AI, exploring key challenges in algorithmic fairness, model transparency, bias mitigation, explainability, accountability, and the broader social, legal, and economic impacts of artificial intelligence systems.
- Evaluated real-world case studies involving ethical risks in machine learning, automated decision-making, and AI governance, providing actionable insights into responsible AI development and human-centered design.

AI Microservices for Media Workflows, Koinonein

- Designed and implemented a modular, microservices-based web application inspired by Instagram, using Flask, React, Docker, and TailwindCSS; integrated PostgreSQL for relational data and MongoDB for flexible, unstructured media content — a dual-database architecture tailored for hybrid AI pipelines.
- Developed RESTful APIs tested with Postman and templated with Jinja2; containerized all components for reproducible deployment and seamless scaling. Demonstrated end-to-end data flow orchestration and distributed systems design — foundational for production-grade AI systems involving real-time inference, content recommendation, and multimodal data handling.

Pattern-Driven IoT Simulation Architecture,

- Developed a modular Java-based simulation of an IoT espresso machine, applying 12+ classic software design patterns (Abstract Factory, Builder, Prototype, Singleton, Adapter, Bridge, Composite, Decorator, Mediator etc.) to enable abstraction, composability, and hardware-agnostic control logic — a foundational skillset for scalable AI systems.

DEG and Next-Generation Sequencing in R, NeuroPrimes

- Performed genome-wide differential gene expression analysis using R, Bioconductor, and DESeq2 to identify statistically significant correlations between Alzheimer's disease and gene expression patterns.
- Applied statistical modeling, data normalization, and multiple hypothesis testing to ensure robust and reproducible results in a high-dimensional biological dataset.

Bacterial ORF Analysis Engine, GeneMiner

- Developed a robust C-based computational engine for detecting bacterial coding regions in RNA sequences, integrating core principles from molecular genetics, such as overlapping genes, nested structures, and bidirectional transcription.
- Enabled customizable, high-throughput ORF detection with modular I/O support and codon-level validation, incorporating advanced sequence handling logic, archive logging, and UNIX-based workflow automation.

Synthetic Population Genetics Engine for Drift Events, EvoScope

- Simulates realistic population genomics scenarios such as founder effects, allele drift, and genotype evolution across generations, with full control over ploidy, allele probabilities, and sampling distributions.
- Analyzes genetic diversity using key metrics including heterozygosity, allelic richness, genetic entropy, Nei's genetic distance, allele frequency distributions, and customizable visualizations — all fully executable in Google Colab with R.

NLP: Real-time Predictive Text Engine, SmartT9

- Designed and developed a desktop application in Java featuring a real-time predictive text engine, suggesting up to three next-word completions based on user input.
- Implemented custom NLP algorithms and machine learning models using Java, incorporating n-gram language modeling, tokenization, and probabilistic text prediction to enhance typing speed and user experience.

Languages

- Greek: Native Proficiency
- English: CEFR C2—Certificate of Proficiency in English, University of Michigan
- Russian: CEFR C1—Типовые тесты по русскому языку как иностранному, Pushkin Institute of Greece
- German: CEFR B2—ÖSD Zertifikat B2, Österreichisches Sprachdiplom Deutsch
- Arabic: CEFR A2—Al-Arabiya Test A2, Foreign Language Teaching Centre at UOA
- Chinese: CEFR A2—HSK Level 2, Confucius Institute at AUEB

[1]The Typst source code of this resume is available at https://github.com/ANRpg/resume.