

I am a multidisciplinary engineer, across Computer Systems and Design, tackling relevant societal problems, by creating interfaces that feel personalized and intuitive to use. Currently working on a social recommender app for cultural events discovery in Athens. Also, building a platform to enable people better monitor their energy consumption. Lastly, helping build NeuroChat, an AI tutor using BCI technology. Working towards the next frontier of personalized AI interfaces.

Languages | Greek Native • English C2 • French Sorbonne C1



Experience

- Research Engineer** Feb. 2025 - Present
Remote
MIT Media Lab
 - Led the migration of **NeuroChat**, a BCI platform, from a research tool to a stable product. Moved database from **Firebase** (NoSql) to **Supabase** (relational), streamlined **authentication**, consent signing, alongside **UX** upgrades and visualizations.
 - Optimized **real-time EEG data preprocessing** for efficient high-frequency data storage and augmented **algorithms** (ex. headset removal detection)
- Co-Founder & Product Engineer** Nov. 2024 - Present
Athens
CALT (Cultural Tech)
 - Designed the **interface** and **visual identity** using **Figma** and developed the **prototype** using the **Flutter** mobile framework. Utilized modern **design patterns** from proven social apps and minimal design for **accessibility** for most age groups and **speed** of use.
 - Designed **recommender** system for matching users to city cultural events based on contextual, personal data. To be implemented utilizing the ShapedAI API.
 - Utilized open-source **LLM** functionalities for **automating data entry** from event posters and for enabling organizers generate descriptions and posters faster and easily.
- Research Engineer** Oct. 2023 - Present
Athens
EPU-NTUA
 - Architected** and **deployed** an end-to-end **distributed IoT system** for **real-time** processing of household energy consumption **data**. I deployed the system using **Kubernetes** in **on-prem** infrastructure and focused on IoT **time-series data** handling and **compression**.
 - Developed a **mobile interface** using Flutter, for displaying user's real-time power consumption data. The goal is to **democratize the users' energy data**, while providing context-aware energy optimizations and billing transparency tools.
 - Investigating integration of **Machine Learning in IoT**, such as time-series forecasting, disaggregation and federated learning for IoT data.
 - Supervising undergraduate students on their thesis pertinent to **soft. architecture**, **MLOps** and **dynamic GUIs** for IoT systems.
- Co-Founder & Product Engineer** Jun. 2023 - Oct. 2023
Athens
Robinstore (Consumer Tech)
 - Designed the **interface** and **visual identity** using Figma and developed the **prototype** using the **Flutter** mobile framework. Utilized the **subconscious mind** patterns to minimize buttons and gestures for navigating and supabase authentication for token validation.
 - Solved the problem of same/similar item matching by representing consumer items as **embeddings** in a **vector database**.
- Software Engineering Intern** Oct. 2022 - Mar. 2023
Athens
Arrikto Inc
 - Participated in the **R&D team** responsible for investigating and testing **cloud native tools** (storage, distributed systems, DevOps).
 - Studied the architecture and implementation of a **distributed key-value store** software (etcd) and debugged existing **Kubernetes** operators.
- Junior Software Engineer** Jun. 2019 - Oct. 2022 (3 mo/y)
Athens
Marmaras Navigation Ltd
 - Reduced the file server **occupied storage** to 1/3 with custom compression scripts.
 - Developed **web-based applications** for vessels' **servers administration** and **business-processes digitalization**, such as vessel tank capacity calculation.
 - Assisted in company's systems administration by configuring **networking hardware** (firewall, vlan switch, access point).



Education

- Master, Human Computer Interaction & AI** Sep. 2025 - Present
Barcelona
Elisava (School of Design & Engineering of Barcelona)
Master's courses : Machine Learning • Conversational Design • UI/UX • UX Research • Interaction Design • Product Design
- Exchange Student, Innovation & Research in Informatics** Mar. 2023 - Jun 2023
Barcelona
Universitat Politècnica de Catalunya (UPC)
Master's courses : ML/AI • Heuristics • Mathematical Modeling • Computer Architecture
- MEng, Electrical & Computer Engineering (Integrated Master)** Oct. 2018 - Feb. 2024
Athens
National Technical University of Athens (NTUA)
Master's courses : ML/AI • Algorithms • Soft. Engineering • Soft. Architecture • Cloud • UI/UX • Mobile • Computer Networks • Computer Languages • Operating Systems • Social Networks • Image & Video Processing
Thesis : Development of an IoT data processing system using distributed technologies based on Kubernetes



Research Papers

A Comprehensive Approach to Real-time and Batch Processing for Energy-Efficient IoT Homes: Leveraging Lambda Architecture and Data Lakes

May 2024 | Filippos Serepas, Nikolaos Bellos, Ioannis Papias

Published : IISA 2024 Proceedings



Volunteering

Co-Founder & IT/Graphics

Jan. 2024 - Jul. 2024

Athens

ODYCEO - NTUA Entrepreneurship Society

OdyCEO is the first entrepreneurship society in NTUA, aiming to equip engineering students with the skills necessary to pitch and promote their ideas and ignite a passion for entrepreneurship.

- Created the **visual identity, graphics and website** of the organization (website: odyceo.ntua.gr)
- Helped **organize workshops** for funding seeking, bootstrapping and networking.

Currator, IT Director

Oct. 2020 - Jun. 2021

Athens

TEDxNTUA

- Served as one of the two **currators** in the **organizing team** overseeing the 7 sub teams.
- I was **head of the IT team**, responsible for creating the **web interface** needed for the event (2021.tedxntua.com). I focused on open-sourcing our code for the web-application and on using a modern technology stack (python/django, css and javascript) and custom visual components for the fun of experimentation.

IT Member

Oct. 2019 - June 2020

Athens

TEDxNTUA

- Served as part of the IT team, implementing key parts of the **web interface** for the event, used by organizers and attendees. Also, designed and implemented intricate **interface components with pure css** (website : 2020.tedxntua.com).

Founder & Coordinator

May 2019 - Present

Athens

NTUA Photography Club

- Founded and managed a non-profit team, for bringing university students closer to **photography** and the **digital arts**, through **seminars** from professional photographers, **workshops, excursions, our own held photography exhibitions** and more.
- Collectively, we achieved **building** a professional **photography studio** and providing all activities for **free** despite the lack of funding, achieving true **inclusivity** among students and older university staff.
- My creative responsibilities also included the **exhibitions' curation**, the **graphic assets** and the website creation (website: photo.ntua.gr)



Skills

UI/UX

Product Design

IoT

Mobile Interfaces

Interaction Design

Machine Learning

Soft. Architecture

Soft. Engineering

DevOps

Systems Design

Distributed Systems

Kubernetes

Flutter

Figma

Notion



Interests

Photography

Podcasting (That's Nuts)

Surfing

Running

Open-Air Cinema Hosting



Honours & Awards

Hackathon Awards

Apr. 2024 - Jun. 2025

Aceln Ennovation (2nd place), Innovation Attica Hackathons (2nd, 3rd place), Apps4Athens Hackathon (4th place). We presented our startup (CALT) that promotes cultural participation through personalized event recommendations.

VAIM (MVP Award)

Jul. 2023

2-Day startup event by John Vlachogiannis. We got to get the first prize for our early stage MVP which focused on recommending the cheapest supermarket combination for each user and combat the opacity behind supermarket prices' fluctuations in the country.

IEEEExtreme (Top 10 Greece)

Nov. 2020

24-hour competitive programming competition (participated in 2019, 2020, 2021, 2023), where I tested my algorithmic skills through solving rigorous computational problems using C++.

Propondis Foundation Scholarship

May 2019

4-year scholarship for undergraduate studies due to academic excellence.

Sensors & Coding Hackathon (3rd place)

Dec. 2018

24-hour hackathon for prototyping a smart traffic light solution using lidars (provided by SICK). The coding involved java and red-node, in order to track the amount of cars in a crossing and dynamically adjust the traffic lights to redistribute traffic.

Robotics Competition - WRO (4th place)

2015-17

International robotics competition qualifiers. Designed, built and programmed a robot to perform dynamic tasks.