Andreas Loizidis

Date of birth: 16/07/2000 | **Nationality:** Cypriot | **Gender:** Male |

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ABOUT ME

Hello, I'm Andreas! Programming since high school, my passion is to tackle interesting problems, utilising modern tools and approaches.

I've been professionally writing code since 2019, providing software solutions for my family's brick and mortar store, for which I still host a synchronisation system that is still functional to this day.

My interests and experience mainly include cloud computing (managing and deploying microservices and backend solutions), iOS mobile apps and machine learning.

I see learning as a life-long process, as I always find myself excited to learn new things and improve upon my skills and knowledge.

WORK EXPERIENCE

09/2023 – 05/2024 Remote

LEAD IOS DEVELOPER ANALGEA (NON-REGISTERED STARTUP)

- App is intended for cancer patients to log their pain, have a direct line with their physician and keep track of their medications.
- Implement Figma designs in a native iOS app with intuitive controls and elements.
- Integrate reminders, appointments and medications with appropriate system interfaces (EventKit, HealthKit, etc)
- Make it functional, using self-hosted Appwrite instance as a backend.
- Responsive, accessible design.
- Unit tests for major functionalities

Note: Due to lack of funds, the startup is not currently active.

Website https://web.archive.org/web/20240422021139/https://www.analgea.com/

06/2019 – 09/2023 Nicosia, Cyprus

SOFTWARE ENGINEER O.H.ORTHOHOUSE LTD

Development and deployment of in-house synchronization system
System that synchronizes the company's products, from its logistics system *Powersoft365*, to its website on *Shopify*. Communication between the two services is done with their respective REST APIs (and specific functions of Shopify's GraphQL API).
System is comprised of a **Swift cloud application** using Vapor as the back-end and an **iOS app** as the front-end. Front-end provides information about the synchronization (new, updated products, inventory updates) and allows customizations about the process (i.e overrides for specific products, on-demand sync of specific models, sync scheduling). Data is stored on a self-hosted **Appwrite** instance. For the developent and maintenance, unit tests were implemented for major functions.

Intuitive iOS App for inventory management
App that, through barcode scanning of a product, allows the user to modify the stock count on the logistics system (Powersoft365) using their REST API.
Makes registering new products' inventory count more productive. Checking or verifying a product's count on the system intuitively fast as only a phone with an internet connection is needed.

General computer maintenance
Remote management of PCs using SSH and **Ansible.**

Digital Ad slideshow using Raspberry Pis

Wrote a simple Bash script to display content (videos and slideshows) on spare TVs using Raspberry Pis. Script was deployed remotely using Ansible. The displayed content is easily changed remotely through SSH.

HONOURS AND AWARDS

14/06/2024

IBM watsonX Challenge 2024 - 1st Place – IBM Switzerland

- Led a team competing for implementing a real world use case scenario using generative AI, for a use case requested by KOMAX.
- Developed and implemented a system leveraging Large Language Models (LLMs) to automate the extraction and classification of information from a series of email exchanges involving customer and internal interactions.
- Used few-shot prompting techniques to enhance the performance
- Experimented and evaluated the performance of different LLMs and different few-shot implementations.
- Presented the overall solution as well as the evaluation of the different configurations, along with cost calculations, so the company can balance cost and performance

Excerpt from the grading comments: "Your in-depth analysis of different encoders, transformers, and other concepts demonstrated a profound understanding of the subject matter. Your presentation was crystal clear, making complex comparisons and concepts accessible to the audience. It was evident that you went the extra mile to ensure that your approach, results, and thoughts were thoroughly explained. Overall, your project was a testament to your exceptional skills, dedication, and passion for the subject matter. Congratulations on a truly outstanding achievement!"

CONFERENCES AND SEMINARS

10/06/2024 – 11/06/2024 Graubünden, Switzerland

SwissText 2024 - Shared Task 1

- Different teams competed for this, we achieved 3rd place overall (out of 15)
- Task was to classify scientific abstracts to one of the UN's Sustainable Development Goals (SDGs) or to a null class
- Given training dataset was too small, so we explored ways to augment the dataset
- Used modern approaches with state-of-the-art LLMs to generate synthetic datasets for each class
- Used topic modelling to identify key words for each class to enhance the diversity and accuracy of the synthetic dataset
- Our approach is described in a paper accepted by the conference but is not yet publicly available.

Link https://www.swisstext.org/call-for-shared-tasks/

EDUCATION AND TRAINING

25/03/2024 – 07/04/2024

JOINT ADVANCED STUDENT SCHOOL 2024 Jetbrains, TUM, Imperial College London

- Led the team responsible for the AI interface and main city server.
- Built a system that used a local Large Language Model to interpret and service requests in natural language in the context of a smart parking garage.
- Used REST APIs and MSQTT to communicate and integrate with the other entities in the smart garage.
- Built a web dashboard in Svelte that showed that served as a real-time war room of the garage's operations and movement of cars, simulated by duckie-bots.
- Built an iOS app that served as the user interface and main interaction point of the system.

Website https://jass.school

01/09/2023 – CURRENT

MSC ARTIFICIAL INTELLIGENCE Zürich Universität

Type of credits ECTS | **Number of credits** 120

25/03/2023 – 02/04/2023

JOINT ADVANCED STUDENT SCHOOL 2023 Jetbrains, TUM, Imperial College London

1. Program focused on project-driven education in emerging technologies
2. Participated in the 2023 program focused on smart context-sensitive traffic control and continuous software evolution technologies for cyber-physical systems
3. Worked in an international team of students and professors from the Technical University of Munich, Imperial College London, and Neapolis University Pafos
4. Developed projects using real hardware equipment, including self-driving cars and smart traffic lights guided by AI
5. Gained hands-on experience in core technologies, including Linux, ROS, Docker/Kubernetes, Matter/Thread, Duckietown, and Python.

Website https://jass.school

09/2019 – 06/2023 Nicosia, Cyprus

B.SC IN COMPUTER SCIENCE University of Cyprus

My degree in Computer Science provided me with a strong foundation in both theoretical concepts and practical techniques, with programming assignments being a particular highlight. I excelled in applying my knowledge to solve real-world problems and enjoyed the challenge of learning new programming languages, including Java, C, Python, Swift, PHP, Javascript, Go, and SQL.

As part of my research project, I am evaluating Swift as a serverless programming language and contributing to the open source community by updating the Swift runtime for OpenWhisk. My work involves investigating Swift's potential as a Function as a Service (FaaS) language. Swift seems very promising because of qualities such as speed, efficiency, and safety, which are crucial in FaaS contexts (as FaaS platforms charge by resource usage and execution time).

Throughout my studies, I covered a range of topics in both theoretical and applied Computer Science:

Theoretical Computer Science
Discrete Mathematics, Digital Systems, Theory of Computation, Computer Organization, Data Structures, Algorithms and Complexity, Linear Algebra, Calculus, Statistics, Programming Principles, Object-Oriented Programming, Boolean Algebra, System Security, Parallel Processing
Applied Computer Science
Operating Systems, Communication and Networks, Artificial Intelligence, Database Systems, Software Engineering, Logical Programming, Assembly Programming, Internet and Web Technologies, Mobile Computing, Cloud Computing

I believe that a solid understanding of these foundational topics is essential in any field of Computer Science.

In addition to my coursework, I have developed strong transferable skills such as effective oral and written scientific communication, organization and planning of group work, and independent research. I have also gained experience in team collaboration and leadership through my participation and leadership in team projects. Notable projects I have led include a business proposal of an AI-powered dashcam, an app for a platform for finding private tutors, and an app for a micro-blogging service. These projects enriched my practical technical skills in developing websites and applications, integrating databases and cloud technologies, resolving conflicts, dealing with deadlines and unexpected issues, avoiding and dealing with miscommunication and working with team members of different skillsets. Worth mentioning is that as part of the Warehouse-scale Computing class, I learned how to split a monolithic application into microservices for easier scaling.

Website ucy.ac.cy | **Field of study** Information and Communication Technologies | **Level in EQF** EQF level 6 |

National classification 6 | **Type of credits** ECTS | **Number of credits** 243 |

Thesis Developing and Evaluating Serverless Applications with Swift in Apache OpenWhisk

02/02/2023

IELTS BAND 8.5/9

03/07/2018 – 03/09/2019 Cyprus
RESERVE OFFICER - 2ND LIEUTENANT Cyprus National Guard

08/08/2018 – 30/11/2018 Greece
OFFICER CANDIDATE Hellenic Armed Forces

Website seap.army.gr/

01/06/2017 – 15/09/2017
GOETHE ZERTIFIKAT B1 Goethe Institut

01/09/2015 – 26/06/2018 Cyprus
UPPER SECONDARY GENERAL EDUCATION (APOLYTERION) Ministry of Education and Culture

Website moec.gov.cy

01/09/2017 – 05/05/2018
CCNA ROUTING AND SWITCHING: ROUTING AND SWITCHING ESSENTIALS Cisco Systems, Ltd

Website cisco.com

01/09/2016 – 09/05/2017
CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS Cisco Systems, Inc

Website cisco.com

LANGUAGE SKILLS

Mother tongue(s): **GREEK**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
GERMAN	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Cloud Computing

Docker | Serverless Computing | Ansible | Swift Web Apps | Go Web Apps | Microservices Architecture | OpenWhisk | Kubernetes | gRPC

Languages

Python | Swift | Java | C | JavaScript | SQL | Dart

Mobile App Development

SwiftUI | Google Firebase | Familiar with Flutter | Basic knowledge of MVC and MVVM architectures | iOS App Performance Profiling | Local and Remote Data Persistence | Unit Testing

General

Bash Scripting | Git | Functional Programming | Object-Oriented Programming | GraphQL | HTML | CSS | JSON | REST | Appwrite

ML

MLX | PyTorch | NumPy | LangChain

Web Development

htmx | Svelte

HOBBIES AND INTERESTS

Swift App Development

1. Development, testing and implementation of cross-platform (macOS, iOS, iPadOS, watchOS) Swift apps using SwiftUI and UIKit.
2. Writing and maintaining readable code and descriptive functions.
3. Composing complex user interfaces in SwiftUI and division into small, independent custom View structures.
4. Experiment with new technologies announced each year at Apple's WWDC, especially those involving SwiftUI.
5. Performance evaluation of Swift Apps using Xcode profiling tools (i.e. identifying causes of stuttering, ensuring smooth animations).
6. Developing apps using the MVVM and MVC architecture.
7. Ensuring high performance, utilizing mutlithreaded programming for intensive workloads, while ensuring thread-safety. Synchronization using Dispatch's DispatchGroups.
8. Preventing and identifying multithreading pitfalls such as data races and deadlocks.
9. Full-stack App development with a Swift back-end for common code libraries and code reuse.
10. Using Google's Firebase for authentication, database, back-end functions.
11. Data persistence and consistency across devices using Apple's CloudKit.

Serverless Computing

1. Experimenting with cloud technologies for developing high performance web apps that make for a highly reliable and responsive back-end.
2. Developing, testing and implementing serverless solutions using the OpenWhisk open source framework.
3. Division of code into loosely coupled units that allow for independent testing and evaluation.
4. Converting complex procedures into stateless functions.

Running

1. Weekly running with diverse types of running (speed runs, interval-based runs, long runs).
2. Marathon training for 5 months, relying entirely on self-discipline (but marathon was cancelled in the end due to COVID measures).
3. My longest run was 27km.
4. Through my love for running, I have learned the values of discipline and perseverance

Swimming

- Weekly swimming lessons since I was 3.5 years old.
- Love swimming in the open sea in the summer.
- Lifeguarding principles and techniques.