

# Andreas Karabetian

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## SUMMARY

Andreas Karabetian is a graduate of the Department of Digital Systems of the University of Piraeus. His main interests are based on the design and development of web applications.

He has participated in the national research project DIASTEMA (Data-oriented infrastructure of technologies for management and development of big data applications) with his main occupation being the design and implementation of visual programming environments and dashboards for interactive data visualization and analytics results.

He is currently affiliated with the University of Piraeus Research Center, participating in the project AI4Gov.

Following the successful completion of one research project, as well as the implementation of some personal mini-projects, he has excellent knowledge of the analysis and implementation of full-stack information systems as well as cloud computing technologies.

## EXPERIENCE

### Research Associate

University of Piraeus Research Center

11/2023 - Present Piraeus, Attiki, Greece

### Research Assistant

Research Center - University of Piraeus

11/2020 - 11/2023 Piraeus, Attiki, Greece

### Website Developer

Freelance (Self employed)

2018 - Present Greece

Creating websites for clients using WordPress.

## PUBLICATIONS

### A Visual Programming Environment for Describing Complex Big Data Functions

ACM

2023 <https://dl.acm.org/doi/abs/10.1145/3625156.3625166>

In this study, a Visual Programming Environment named Pipeline Modeler is implemented, capable of translating visual graph representations into operations, which can be then executed in big data scenarios, such as analytics pipelines and flow management on finance datasets. With the use of node blocks, one can create a graph to declare a complex mathematical flow or a pipeline of linked operations that need to be executed on a given set of data.

### AI4Gov: Trusted AI for Transparent Public Governance Fostering Democratic Values

IEEE

2023 <https://ieeexplore.ieee.org/abstract/document/10257230>

To ensure that AI is used in a way that upholds democratic values, it is essential to develop systems that are trustworthy, transparent, and accountable. Trusted AI allows citizens to have greater trust in public organizations and their decision-making processes, while it also enables public authorities and policy makers to be more transparent and accountable, providing citizens with greater visibility into how policies are developed.

## EDUCATION

### B.Sc., Department of Digital Systems

University of Piraeus

09/2017 - 09/2023

## PROJECTS

### AI4Gov

01/2023 - Present

<https://ai4gov-project.eu/>

Trusted AI for Transparent Public Governance fostering Democratic Values.

### M.Sc. "Information Systems and Services" Website

01/2024 - 04/2024

<https://mscdss.ds.unipi.gr/>

I was the developer behind the new website of the new website of the Master's Program.

### University of Piraeus Website

09/2023 - 03/2024

<https://unipi.gr>

I was part of the core development team for the new website of the University of Piraeus.

### DIATEMA

12/2020 - 05/2023

[diastema.gr](https://diastema.gr)

Diastema is a collection of efficient and scalable components, offering user-friendly analytics through graph data modelling, supporting technical and non-technical stakeholders.

## LANGUAGES

### English

Proficient



### Greek

Native



## SKILLS

### Sectors

Web Development

Cloud Technologies

System Administration

## PUBLICATIONS

### MathBlock: Performing Complex Mathematical Operations on Synthetic Data

IEEE

📅 2023 🔗 <https://ieeexplore.ieee.org/abstract/document/10080594>

In this paper, a service called MathBlock is analyzed that is able to be used as a language agnostic mathematical expression parser and executioner, on batch data. MathBlock consists of four types of functions, including arithmetic, comparison, logical, and statistical.

### DIASTEMA: Data-driven Stack for Big Data Applications Management and Deployment

International Journal of Big Data Management

📅 2023

🔗 <https://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijbdm#108256>

A data-driven stack for big data applications' management and deployment is being described, Diastema, bringing efficient data-as-a-service data management through distributed storage and analytics.

### An Environmentally-sustainable Dimensioning Workbench towards Dynamic Resource Allocation in Cloud-computing Environments

IEEE

📅 2022 🔗 <https://ieeexplore.ieee.org/abstract/document/9904367>

The aim of this paper is to present a solution on dynamic resource allocation for efficient cloud scalability. This is made possible by using machine learning algorithms as well as user feedback, in order to generate an adequate resource forecasting model.

### An Autoscaling Platform Supporting Graph Data Modelling Big Data Analytics

Studies in Health Technology and Informatics

📅 2022 🔗 <https://ebooks.iospress.nl/pdf/doi/10.3233/SHTI220743>

This paper describes a domain-agnostic single access autoscaling Big Data analytics platform, namely Diastema, as a collection of efficient and scalable components, offering user friendly analytics through graph data modelling, supporting technical and nontechnical stakeholders.

### A Comparison of Container Systems for Machine Learning Scenarios: Docker and Podman

IEEE

📅 2022 🔗 <https://ieeexplore.ieee.org/abstract/document/10027159>

The aim of this paper is to compare two of the most popular container engines to see what differences exist in performance and architectural levels between the so-called "drop-in" replacements. To ensure consistency and replicability of testing, we standardize the benchmark environment with a custom-built tool that describes differences among container engines in the millisecond range.

### Data Processing Tools for Graph Data Modelling Big Data Analytics

IEEE

📅 2022 🔗 <https://ieeexplore.ieee.org/abstract/document/10123672>

In this paper, we aim to present a solution for deploying event-based automated data processing tools for low code environments that aim to minimize the need for user input and can effectively handle common data processing jobs, as an alternative to distributed solutions which require language specific libraries and code.

## SKILLS

### Languages and Frameworks

JavaScript

Python

PHP

Next.js

Flask

ReactJS

### Tools and Technologies

Git

Docker

Kubernetes

Apache

WordPress

MySQL

MongoDB

Node.js

## CERTIFICATIONS

### AWS Educate Introduction to Cloud 101

Amazon Web Services (AWS)

### The Complete 2023 Web Development Bootcamp

Udemy

### Cambridge English: First (FCE)

Cambridge University Press & Assessment English