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Site maionemiky.it • GitHub github.com/mikymaione • Version 12/01/2025
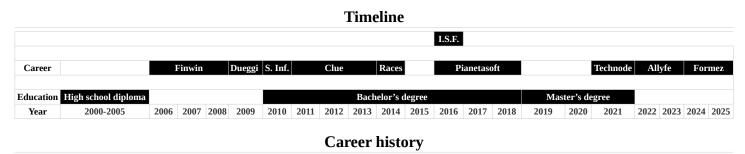
Personal summary

Since childhood I have always had a huge passion for science, physics and math, I'm also fond of European literature of the 19th and 20th centuries and I practice competitive swimming (supermaster circuit in Italy).

Professional goals

I would like to be part of a team of experienced computer scientists and work on challenging and critical projects that leverage my fields of study.

Timeline

	2000-2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
													I.S.F.								
Career			Finwin		Dueggi	S. Inf.		Clue		Races			Pianetasoft					Technode	Allyfe	Formez	
Education	High school diploma								Bachelor's degree							Master's degree					
Year	2000-2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025

Career history

FORMEZ PA (ASSOCIATION OF THE COUNCIL OF MINISTERS) – ROME, ITALY

05/2024 – currently • IT consultant – Naples and Rome, Italy

Customer: Formez PA – Rome, Italy

- In a team of 3 people, we redesigned and developed with Blazor Server (C#) the web portal for managing public competitions. The portal takes care of the insertion of the practice, the import of candidates from InPA, the evaluation of skills and qualifications, and the management of the interview and the generation of the ranking. CI/CD was used through Azure DevOps.

Customer: Department of Civil Service – Rome, Italy

- I followed the design phases of a data aggregation platform for the Department of Public Function, developed by the National Strategic Hub.

SOLUZIONI INFORMATICHE (SOFTWARE DEVELOPMENT AND IT CONSULTANCY) – POMIGLIANO D'ARCO, ITALY

02/2024 – 03/2024 • Software architect – Full remote (P.IVA)

Customer: Sport 7 S.c.r.l. – Caserta, Italy

- I developed with ManyDesigns Portofino (Java, JSP, Hibernate) and MySQL a web portal that manage: product catalogues, supplier documents, invoices, credit notes, packing lists, bank statements, complaints.

ALLYFE S.R.L. (SOFTWARE DEVELOPMENT) – AUDERGHEM, BELGIUM

12/2021 – 01/2024 • Software architect – Full remote (P.IVA)

Customer: Fondazione Telethon ETS – Italy, Betsi Cadwaladr University Health Board – Wales

- In a team of 6 people, I develop a front-end application (web and mobile app. for iOS & Android) with Flutter using Dart, a back-end with Scala on a PostgreSQL DB, a WebRTC server in Dart for the videotelephony and a messaging system using Cloud Firestore. CI/CD was used through GitHub Actions. Amazon ECS was managed with a deployer written in Scala. Behavior-driven development style of testing with ScalaTest. I was responsible for the development of the following functions (front-end and back-end): patient management, user profile management, multi-account management, appointment management, questionnaire management, video call, instant messaging, electronic signature on documents, fillable PDF management, download of user data according to GDPR regulations.

TECHNODE S.P.A. (IT CONSULTANCY) – MOLFETTA, ITALY

07/2021 – 11/2021 • IT consultant – Full remote (CCNL – Commercio Terziario 1°lv)

Customer: Engineering Ingegneria Informatica S.p.A. – Naples, Italy
- In a team of 7 people, I worked on developing web services with Java on JBoss EAP and Db2 databases. CI/CD was used through Jenkins. Test-Driven Development with JUnit for Telepass S.p.A. website.

PIANETASOFT S.R.L. (SOFTWARE DEVELOPMENT AND IT CONSULTANCY) – NAPLES, ITALY

09/2015 – 09/2018 • Software architect – Naples, Italy (CCNL – Commercio Terziario 2°lv)

Customer: Races Finanziaria S.p.A. – Naples, Italy
- In a team of 2 people, I developed customizations and plug–in for Microsoft Dynamics CRM, in C#. I was responsible for creating modules for managing loan estimates (salary-backed loan, loan with delegation, mortgage).
- With C# Windows Forms I created a program to migrate two databases one from SQL Server and one from PostgreSQL to the database of Microsoft Dynamics CRM.

Customer: Clue Norge ASA – Oslo, Norway
- In a team of 3 people, I developed with ManyDesigns Portofino (Java, JSP, Hibernate) and MySQL a web portal for creating, editing and exporting dictionaries to SQLite.
- With NodeJS (TypeScript) I developed a back–end server to consult SQLite dictionaries.
- With Google Polymer (HTML, CSS, JavaScript) I developed a web application to consult dictionaries through asynchronous HTTP request.
- I create a Drupal module in PHP, that integrate Commerce Card on file with DIBS Payment.

Customer: Studio Fedele S.r.l. – Naples, Italy
- In a team of 2 people, I created the software architecture of a desktop application for the drafting and telematization of customs declarations, in Delphi and Firebird.

INFORMATICI SENZA FRONTIERE ONLUS (SOFTWARE DEVELOPMENT AND IT CONSULTANCY) – TREVISO, ITALY

09/2015 – 06/2016 • Software architect – Naples, Italy (ONLUS)

Customer: Centro La Tenda ONLUS – Naples, Italy
- I developed a software solution to manage a multi–purpose day center for the assistance of children in difficult situations, in C# Windows Forms and Firebird. The functions developed are: user management, patient management, family tree management, parental authority and family problems, management of social workers, psychologists and educators, management of activities, laboratories and related calendar, management of annual patient results, management of PEI (individualized educational plan), print management, document management and relative sending to the Municipality of Naples.

RACES FINANZIARIA S.P.A. (FINANCIAL INSTITUTION: IT DIVISION) – NAPLES, ITALY

11/2013 – 12/2014 • Software analyst – Naples, Italy (CCNL – Commercio Terziario 2°lv)
- I developed a set of tools to optimize and speed up the activities of the IT division, fixing bugs and implementing enhancements to existing software written in Delphi, Java and SQL Server.
- I realized, with ManyDesigns Portofino (Java, JSP, Hibernate) and SQL Server, a web portal for contact management, advertising campaigns, quotes and reporting.

CLUE NORGE ASA (MARKETS AND SELLS ELECTRONIC DICTIONARIES RELATED TO NORTHERN EUROPE'S LANGUAGE) – OSLO, NORWAY

09/2010 – 09/2013 • Software architect – Full remote (P.IVA)
- I developed, in C# Windows Forms and SQL Server, a software to consult dictionaries and a web services to manage licenses.

SOLUZIONI INFORMATICHE (SOFTWARE DEVELOPMENT AND IT CONSULTANCY) – POMIGLIANO D'ARCO, ITALY

09/2009 – 08/2010 • Software architect – Full remote (P.IVA)

Customer: Supermercati GS S.p.A. – Naples, Italy
- I have developed a program, in C# Windows Forms and MySQL, to optimize the path of the truck.

Customer: H3G S.p.A. – Naples, Italy

- I created a web portal, in C# ASP.NET and MySql, for an agency that is responsible of contracts phone for business users.

DUEGGI S.P.A. (FINANCIAL INSTITUTION: IT DIVISION) – NAPLES, ITALY

01/2009 – 07/2009 • Software analyst – Naples, Italy (CCNL – Commercio Terziario 3°lv)

- In a team of 10 people, I was in charge of re–engineering some existing web applications, in C# ASP.NET and SQL Server.

FINWIN S.R.L. (SOFTWARE DEVELOPMENT AND IT CONSULTANCY) – POMIGLIANO D'ARCO, ITALY

05/2006 – 12/2008 • Software developer – Pomigliano D'Arco, Italy (CCNL – Commercio Terziario 4°lv)

Customers: BancApulia S.p.A., Races S.p.A., Sefital S.p.A., Cofimar S.p.A., Vallelonga servizi finanziari S.p.A., Umbrafarm S.p.A. – Italy

- In a team of 5 people, I developed, in Delphi and SQL Server, a software for the management of financial contracts, payment of fees and customer management.

Unpublished works

MAME CGP (2021) - https://www.maionemiky.it/public/PiattaformaDiCloudGamingPerGiochiArcade.pdf

- A cloud gaming platform for arcade games based on MAME.

Study-on-CNN-4-AF (2020) - https://www.maionemiky.it/public/documentazioni/CNN_for_atrial_fibrillation.pdf

- A study on the use of convolutional neural networks for the diagnosis of atrial fibrillation.

Housing Prices (2020) - https://www.maionemiky.it/public/documentazioni/Housing_Prices.pdf

- Ridge and Lasso regressions for the prediction of the median house price: a machine learning implementation.

TSP (2020) - https://www.maionemiky.it/public/documentazioni/TSP.pdf

- Algorithms for the resolution of the TSP.

Folie (2019) - https://www.maionemiky.it/public/documentazioni/Folie.pdf

- A library that simulate intelligences for volleyball games.

Spatial Subspace Rotation (2019) - https://www.maionemiky.it/public/documentazioni/Spatial_Subspace_Rotation.pdf

- A Python implementation of the Spatial Subspace Rotation for remote photoplethysmography.

Ohm-o-matic (2019) - https://www.maionemiky.it/public/documentazioni/Ohm_o_matic.pdf

- A distributed system for the intelligent management of the electricity produced by a complex of houses.

K-path problem (2015) - https://www.maionemiky.it/public/documentazioni/k_paths.pdf

- An algorithm to solve the K-paths problem,

Personal open source projects

Worklick (2023) – Google Play

- A social network for business collaborations, developed with Flutter and Cloud Firestore.

RationesCurare (2008) – maionemiky.it/RationesCurare.shtml

- It is a software for the management of the personal economy; it was developed with C# Windows Forms and SQLite.

MAMEStreamingPlatform (2021) – github.com/mikymaione/MAMEStreamingPlatform

- A cloud gaming service based on the MAME emulator (C++), that stream an MPEG-TS video to an HTML page via WebSocket.

Study on the use of CNN for the diagnosis of AF (2020) – github.com/mikymaione/Study-on-CNN-4-AF

- In this study we will introduce atrial fibrillation, one of the cardiac arrhythmias, and see how it can be diagnosed using convolutional neural networks in combination with various methods and supervised learning models.

Housing Price (2020) – github.com/mikymaione/HousingPrices

- Python implementation of Ridge and Lasso regression algorithms.

Held–Karp algorithm (2020) – github.com/mikymaione/Held-Karp-algorithm

- Algorithms for the resolution of the TSP: dynamic programming Held–Karp algorithm, Held–Karp with Lagrangian relaxation and branch and bound, Christofides algorithm; Developed in C++.

Be strong, be the last (2020) – maionemiky.it/BSBTL.shtml

- It's an open-source, multiplayer, game that we developed for the exam of "Videogame, design and programming"; it was developed with Unity and C#.

LauraRun (2020) – maionemiky.it/LauraRun.shtml

- It's a platform game that I developed as a present for the 22th birthday of my partner Laura in 48h with Clickteam Fusion.

Hypogeum (2019) – maionemiky.it/Hypogeum.shtml

- It's an open-source, online, multiplayer, game that we developed for the exam of "Online Game Design"; it was developed with Unity and C#. The game won the "Best multiplayer game" and "EDI special award" at New Game Designer 2019 in Milan (ngd.unimi.it).

Folie (2019) – github.com/mikymaione/Folie

- It is a library (in C++/CLI) for Unity that simulate intelligences for volleyball games.

2SRPy (2019) – github.com/mikymaione/2SRPy

- Python implementation of "Spatial Subspace Rotation", an algorithm for remote photoplethysmography.

Ohm-o-matic (2019) – github.com/mikymaione/Ohm-o-matic

- An open-source distributed and pervasive system for peer-to-peer control of electricity consumption in house; it was developed in Java, Protocol Buffers, gRPC, Jersey, Grizzly.

Neko ni koban (2019) – globalgamejam.org/2019/games/neko-ni-koban

- It is a free game for Windows, there are 3 playable levels with different gameplay; it was developed during the Global Game Jam 2019 in Milan with Clickteam Fusion.

SaveTheZoo (2018) – maionemiky.it/SaveTheZoo.shtml

- It is a free game for Android devices, the aim of the game is to save all the animals in danger; it was developed with Clickteam Fusion.

KCammini (2015) – github.com/mikymaione/KCammini

- Algorithm to check if there are k different paths between a vertex u and a group of vertices (v_1, v_2, v_3, … v_j). It can be executed by creating a vertex w that receives the vertices (v_1, v_2, v_3, … v_j), and run the algorithm to find out if there are k different paths between u and w; developed in C and Qt.

Education

Teacher training – 24 cfu
2022 • Ateneo San Michele – Messina, Italy

Exams:

Cultural Anthropology	Special Pedagogy and Planning of Educational Interventions
General and Social Psychology	Didactics and Technology

Master's degree – Computer science: video game design
2018 – 2021 • University of Milan – Milan, Italy

Grades: 104/110

- Thesis: MAMEStreamingPlatform – Expanding the MAME, a cloud gaming service was created. The platform ensure the protection of digital rights and give to the user the opportunity to play immediately. It will preserve arcade video games from the obsolescence of consoles and at the same time will attract new generations to games that have made history: *www.maionemiky.it/public/PiattaformaDiCloudGamingPerGiochiArcade.pdf*

Exams:

Game design and prototyping	Statistical methods for machine learning
Videogame design and programming	Intelligent systems
Engines for 3D videogames	Methods and models for decisions
Artificial intelligence for video games	Combinatorial optimization
Online game design	Natural interaction
Software development in complex teams	Computational models for affective and behavioral computing
Distributed and pervasive systems	English assessment (B2)

Bachelor's degree – Computer science: scientific computing
2009 – 2018 • University of Naples Federico II – Naples, Italy

Grades: 86/110

- Thesis: GAM# – A software for managing the center "La tenda ONLUS". A multi–purpose day center for the assistance of children in difficult situations. It was developed with C# Windows Forms and Firebird: *www.maionemiky.it/public/GAM.pdf*

Exams:

Continuum mathematics	Computer programming + lab.
Discrete mathematics	Programming languages
Geometry	Advanced programming
Statistics and data analysis	Algorithms and data structures + lab.
Physics	Databases + lab.
Atomic physics	Computer networks
Computer architecture + lab.	Operating systems + lab.
Automata and formal languages	Advanced operating systems
Numerical analysis	Software engineering
Scientific calculus	English assessment (B1)

High school diploma – Scientific lyceum: mathematics and computer science
2000 – 2005 • Liceo scientifico statale Carlo Urbani – San Giorgio a Cremano, Italy

Grades: 60/100

- Final exam: Social alienation

Skills

Area	Level	Years' experience	Last used
English proficiency (B2)			
Read	★★★★★	Novels	
Listen	★★★★	Colloquial	
Talk	★★★	Colloquial	
Write	★★★	Simple texts	
DBMS			
SQLite 3.25	★★★★★	6	2025
Firebird 3.0	★★★★★	3	2018
SQL Server 2022	★★★★	12	2025
MySQL 5.7	★★★	6	2018
IBM Db2 11.1.4.6	★	1	2022
PostgreSQL 14.1	★★	2	2024
Cloud Firestore 2022	★★	2	2024
Programming languages			
C# 12	★★★★★	16	2025
Delphi 10	★★★★★	5	2018
VB.NET 8	★★★★	5	2007
Java 11	★★★★	3	2022
TypeScript 3	★★★★	2	2018
JavaScript 6	★★★	2	2022
Groovy 2	★★★	2	2017
C++/CLI (ECMA-372)	★★★	1	2019
C 99	★★★	3	2011
C++ 17	★★★★	3	2020
Python 3.7	★★	2	2019
Dart 3.2	★★★★★	2	2024
Scala 2.13	★★★	2	2024
Rust 1.75	★★	1	2024
Markup languages			
XML 1.1	★★	5	2017
HTML 5	★★★	4	2025
CSS 3	★	1	2025
LaTeX 3	★	1	2021
UML 2.0	★★★★★	8	2016
JSON (ECMA-262)	★★	2	2023
Protocol Buffers 3.7.1	★★★	1	2020
Frameworks			
Windows Forms 2.0	★★★★★	15	2010
ADO.NET 2.0	★★★★★	10	2010
ASP.NET Web Forms 2.0	★★★	2	2010
Blazor 9.0	★★★	1	2025
Entity Framework Core 9.0	★★	1	2025
LINQ 4.0	★	1	2010
Hibernate ORM 4.3	★★	2	2017
Node.js 6.0	★★★	2	2018

Area	Level	Years' experience	Last used
gRPC 1.19.1	★★	1	2020
Google Polymer 2.0	★★★★	2	2017
Maven 3.6.1	★	1	2018
Gradle 5.0	★	1	2018
Qt 5.5	★	1	2011
NumPy 1.19	★	1	2019
Pandas 1.1	★	1	2019
Scikit-learn 0.23	★★	1	2019
Red Hat Jboss EAP 7.1.0	★	1	2022
Flutter 3.16	★★★★	2	2024
AWS CDK 2.17	★	1	2023
Game engine			
Clickteam Fusion 2.5	★★★★	8	2019
Unity 2018.3.7	★★★★	2	2020
Operating systems			
Windows 11	★★★★★	28	2025
Debian 12	★★★★	6	2025
Fedora 41	★★★★	4	2025
Android 11	★★★	4	2025
Organization software			
Subversion 1.9	★★★★★	9	2011
Git 2.41	★★★★★	5	2025
Jira 7.12	★★★★	3	2024
Confluence 6.10	★★★	3	2024
Asset editing software			
Paint.net 5.0	★★★★★	8	2025
GIMP 2.10	★★	1	2025
Photoshop 7.0	★★★	4	2010
Premiere 7.0	★	1	2010
Inkscape 0.91	★	1	2010
3dsmax 7	★★★	4	2010
ZBrush 3.1	★	1	2010

Implemented algorithms & patterns

Architectural pattern	Client-server
	Three-tier
	Model–view–controller
	Model–view–presenter
	Distributed hash table
Sorting	Bubble sort
	Insertion sort
	Heapsort
	Merge sort
	Quicksort – Tony Hoare partition scheme
	Quicksort – Nico Lomuto partition scheme
Binary search tree	Depth-first order
	Breadth-first order
Graph	Breadth-first search
	Depth-first search
	Dijkstra's algorithm
	A* search algorithm
	Topological sorting
	All simple paths
	Tarjan's strongly connected components algorithm
	Kosaraju's strongly connected components algorithm
Minimum spanning tree	Prim's algorithm
	Kruskal's algorithm
Maximum matching	Blossom algorithm
Traveling salesman problem	Held–Karp algorithm
	Christofides algorithm
Distributed hash table	Chord
Mutual exclusion on distributed systems	Ricart–Agrawala algorithm
Face detection	Viola–Jones object detection framework
Skin segmentation	Skin color filter
Remote photoplethysmography	Spatial subspace rotation
Abstract machine	Mealy machine
Operations research	Decision tree
Artificial intelligence	Behavior tree
Regression	Linear
	Ridge
	Lasso
Model validation	Cross–validation
	Nested cross–validation
Data analysis	Principal component analysis
Machine learning	Convolutional neural network