

## Personal Data

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**Birth:** Greece, Nationality Greek  
**Place of residence:** Thessaloniki, Greece  
**Languages:** English (C2), Greek (Mother-tongue)

## Education

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**Master of Science in Computer Systems** *University of Ioannina*  
*Department of Computer Science and Engineering* February 2025 – Present

**Bachelor of Science in Informatics** *University of Western Macedonia*  
*Department of informatics* October 2019 – January 2025

## Interests

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Computational Fluid Dynamics, High Performance Computing, Numerical Analysis Software, Scientific Programming

## Membership

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Member at Parallel Processing Group (PPG) at the Department of Computer Science and Engineering, School of Engineering, University of Ioannina.

## Relevant Coursework

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**Advanced subjects in Numerical Analysis** *Spring 2023*  
*Assistant Professor Ioannis Touloupoulos* *University of Western Macedonia*

**High Performance Systems and Software** *Spring 2025*  
*Professor Vassilios Dimakopoulos* *University of Ioannina*

**Introduction to Fluid Mechanics** *Fall 2025*  
*Professor Michalis Xenos* *University of Ioannina*

**Thesis: Devising a scientific computing software using CAD tools** *Fall 2024*  
*Assistant Professor Ioannis Touloupoulos* *University of Western Macedonia*

This thesis presents the implementation of numerical methods in C/C++ to approximate solutions of differential equations with boundary conditions. Initially, we introduce the concept of B-splines as approximation tools, thanks to their geometric properties. Fundamental concepts of B-spline curves are explained, such as basis functions, the knot vector, the order of the curve, control points, and the convex hull. Subsequently, we construct a system of the form  $Ax = b$ , which we solve using the Cholesky method.

## Projects

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### High Performance CFD Solver for Laminar Pipe Flow Problem

Written in C++ and CUDA, this project aims to speed up execution times over the MATLAB implementation up to 50 times more by utilizing advanced synchronization techniques, parallel computations and GPU programming.

### Construction of Raspberry Pi Cluster

Scope of this project is to explore parallel computations on an ARM architecture CPU.

## Contributions to Open Source Projects

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**OCC** Open Computational Chemistry is a next-generation quantum chemistry and crystallography program and library, designed for modern computational workflows, written in pure C++, my part of contribution is to improve build times by refactoring the code base and applying compiler optimizations.

## Technical skills

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**Programming Languages** C, C++, Python,  $\LaTeX$   
**Tools/Libraries** GSL, OpenMP, MPI, CUDA, Intel Vtune Profiler, Intel Math Kernel Library, Nvidia Nsight Compute

## Scholarships

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**Undergraduate Scholarship** Compensatory scholarship by University of Western Macedonia 2023-2024

**Undergraduate Scholarship** Compensatory scholarship by University of Western Macedonia 2022-2023

## Additional Training

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**Summer School** CINI-High-Performance Computing for Science, Industry, and Society *June 2025*

**Summer School** University of Thessaly–Dynamic Systems and Complexity *July 2025*