



THEOFILOS CHRISTODOULOU

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PERSONAL INFORMATION

Date of Birth 7/3/1993

FIELDS OF INTEREST

Medical Imaging, Computational Biomechanics, Digital Signal Processing, Blockchain Technology, Multi-modal Medical Imaging and Image Fusion, Spectral Imaging, Wearable Technology, Healthcare products and applications, Software Engineering, Systems Development and Analysis

EDUCATION

PhD Candidate, Computational Biomechanics

National Technical University of Athens - Athens, Greece

5/2021 - Present

School of Civil Engineering

MGroup Numerical Simulation lab, Institute of Static Analysis and Seismic Research Lab

M.Sc. Biomedical Computing

Technical University of Munich - Munich, Germany

10/2018 - Present

Chair for Computer Aided Medical Procedures and Augmented Reality

Significant courses

Computer Aided Medical Procedures

Medical Imaging Technology

Introduction to Deep Learning

Project Management and Software Development for Medical Applications

Significant projects

Augmented Reality for the Surgical Assistant - Medical Augmented Reality

MRI Vessel Quantification - Project Management and Software Development for Medical Applications

Dipl. Electrical and Computer Engineering, GPA 7.62 / 10

Technical University of Crete - Chania, Greece

9/2011 - 3/2018

School of Electrical and Computer Engineering

Significant courses

Electronic Imaging: Advanced topics and applications

Biomedical Technology

Machine Vision

Significant projects

Development of a Hyperspectral Microcamera - Diploma Thesis

Development of a Palm Oximeter using Arduino - Micro-processor Based Embedded Systems

Development of an assistive system for visually-impaired individuals - Machine Vision

3rd General High School of Chaidari - Athens

9/2008 - 6/2011

High School Diploma, GPA 18 / 20

AWARDS

2/2019 **Stryker**
"Augmented Reality for the Surgical Assistant",
best project in the course "Medical Augmented Reality", Winter Semester 2019

SCIENTIFIC CONTRIBUTION

7/2022 *MTwin: Porting and customizing the computational mechanics solver MSolve for HPC execution in Microsoft Azure. George Stavroulakis, Theofilos Christodoulou, Stefanos Pyrialakos, Valia Tsotoulidi and Vissarion Papadopoulos. 5th World Congress on Computational Mechanics (WCCM-XV) 8th Asian Pacific Congress on Computational Mechanics (APCOM-VIII) 31 July - 5 August 2022, Yokohama, Japan*

7/2021 *Machine learning-assisted Stochastic Optimization of Structures comprised of Nano-reinforced Concrete. Ioannis Kalogeris, Stefanos Pyrialakos, Serapheim Bakalakos, Odysseas Kokkinos, Vissarion Papadopoulos, Theofilos Christodoulou. 10th GRACM Conference, 5-7 July 2021, Athens*

WORK EXPERIENCE

7/2021 - Present **Self Employed** - Athens, Greece
Software Engineer

- Software Design, Development and Testing, Object-Oriented Programming (C#)
- Full-Stack cross-platform mobile app development (typescript, Ionic framework)
- Identification and realisation of Computational Mechanics Problems and Solutions

Significant Project MTwin: Development of an integrated Cloud-Based multi-physics Simulation engine

4/2018 - Present **Mia Laboratories** - Athens, Greece
Software Engineer, DSP Engineer, Product Manager

- Software Design and Testing, Development of Sound Engineering Software, Object-Oriented Programming (C++), Digital Signal Processing
- Creation of applications for real-time digital audio signal processing
- Identification of user needs, Product Design and Development
- Digital Marketing, eCommerce website hosting, development and maintenance

Significant Projects 413 Tape Saturator: Physical Modelling of magnetic hysteresis in Tape Recorders for digital emulation
409 Opto Compressor: Physical Modelling of Compressor circuits for digital emulation

3/2018 - 8/2018 **Self Employed** - Chania, Greece
Software Engineer, Mobile App Developer

- Mobile App Development, Full-Stack Cross-Platform Asynchronous Programming (typescript, Ionic framework)
- Creation of real-time Cloud databases

Significant Project UniPark: Release of a complete application in Beta mode on Google Play

7/2016 - 8/2016 **Net 22** - Chania, Greece
Mobile App Developer - Internship

- Software Development, Full-Stack Cross-Platform Asynchronous Programming (HTML5, CSS3, typescript)

7/2015 - 11/2015

Oxxo - Chania, Greece

Web Developer, IT Department

- *Hosting, Development and maintenance of Websites (HTML, CSS, Bootstrap.js)*
- *Development of Facebook Applications (javascript)*

SKILLS

Language

Greek (Native)

English (Proficient, State Certificate of Foreign Language Proficiency Level C1)

German (Good, Goethe-Zertifikat B1)

Technical

Modern Programming Languages (C++, Python, Typescript, Javascript, C#, Matlab, C, Java), Ionic, Unity, Node.js, Cordova, HTML5, CSS3, Wordpress, SQL Databases, No SQL Databases, Arduino

Professional

Hard-working, innovative, goal-oriented, competent in developing ideas, decisive attention to detail, productive coordinating work with others, skilled at preparing reports

INTERESTS

Exploration of new scientific concepts, Music Production, Travelling