Alexandros Tragoudas

Date of birth: 06/08/1994 | **Nationality:** Greek | **Phone number:**

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EDUCATION AND TRAINING

08/2019 – 03/2022 Hannover, Germany
M.SC. MECHANICAL ENGINEERING Gottfried Wilhelm Leibniz Universität Hannover

- Master of Science in Mechanical Engineering (German Grade: 1,3)
- Master Thesis: "A Computational Model for Atherosclerosis" (German Grade: 1,3)
- Study Project: "Investigation of Dynamic Substructuring Methods for Systems with Arbitrary Viscous Damping in State Space under StochasticExcitation" (German Grade: 1,0)
- Specialisation: Development and Construction (German Grade: 1,3)

08/2014 – 01/2019 Hannover, Germany
B.SC. MECHANICAL ENGINEER Gottfried Wilhelm Leibniz Universität Hannover

- Bachelor of Science in Mechanical Engineering (German Grade: 2,2)
- Bachelorthesis: "Creation of a Mesh Generator and implementation of the Discontinuous Galerkin Finite Element Method in 3D to avoid geometric stiffness effects" (German Grade: 1,7)
- Specialisation: Development and Construction (German Grade: 1,5)

09/2011 – 06/2012 Mandra, Athens, Greece
HIGHSCHOOL DIPLOMA Public Highschool

HONOURS AND AWARDS

08/2020
Dean's List Certificate – Leibniz Universität Hannover

Dean's List Certificate in recognition of outstanding perfomance among the top 2 of 121 students

PUBLICATIONS

2024
An Enhanced Deep Learning Approach for Vascular Wall Fracture Analysis

Alexandros Tragoudas, Marta Alloisio, Elsayed S. Elsayed, T. Christian Gasser, Fadi Aldakheel

2023
Mechano-chemo-biological model of atherosclerosis formation based on the outside-in theory

Meike Gierig, Alexandros Tragoudas, Axel Haverich, Peter Wriggers

WORK EXPERIENCE

09/2023 – CURRENT Hannover, Germany
RESEARCH ASSOCIATE INSTITUTE OF MECHANICS AND COMPUTATIONAL MECHANICS (IBNM), LEIBNIZ UNIVERSITÄT

- Development of a Multiphysical Computational Model, including Plasticity, Phase Field Fracture, Fatigue, Corrosion, and Drug Elumination to optimize Stent's product Life Time.
- Programming of Deep Learning U-Net architecture for predicting mechanical fracture.
- Design of mechanical componets with Solidworks and automation of process with Python.
- Teaching duties for Statics, Solid Mechanics, Kinematics, and Vibration in a class of 200 students.
- Coordination responsibilities regarding budgeting and hiring of personnel.

07/2022 – 04/2023 Nicosia, Cyprus
RESERVIST SERGEANT OFFICER HELLENIC ARMY BY ΕΛ.ΔΥ.Κ, CYPRUS

- Responsible for the coordination of daily tasks in the barracks
- Administrative position in the 1st office of the command center.

05/2021 – 10/2021 Hannover, Germany
STUDENT RESEARCH ASSISTANT INSTITUTE OF CONTINUUM MECHANINS (IKM), LEIBNIZ UNIVERSITÄT

- Creation of UEL wiht AceGen package in Mathematica environment
- Coupling of UEL and UMAT with ABAQUS enviroment and visualization of postprocessing data through the UVARM subroutine

08/2020 – 05/2021 Hannover, Germany
STUDENT RESEARCH ASSISTANT INSTITUTE OF ASSEMBLY TECHNOLOGY (MATCH), LEIBNIZ UNIVERSITÄT

- Implementation of Virtual-Rigid-Link Model for Soft Robots in Matlab
- Automatization of Code for arbitrary type of joints, endeffector positions and external forces/moments
- Identification of stiffness parameters with Particle Swarm Algorithm

08/2019 – 08/2020 Hannover, Germany
STUDENT RESEARCH ASSISTANT INSTITUTE OF MECHATRONIC SYSTEMS (IMES), LEIBNIZ UNIVERSITÄT

Project: Methodologies for designing and development of softrobots

- Creation and further development of functions on Matlab, for the implementation of the Dynamic Equations of Motion on Soft Robots
- Further development of Matlab Code for the Visualization of Softrobot's special Kinematics,for 1-Segment or 2-Segments in 2D & 3D:
  - Transformation of Softrobot points between the reference and current Coordinate System
  - Calculation of Rotation Matrixes & Translation Vectors,
  - Interpolation of Softrobot's motion based on End Effector's position,
  - Creation of a Video for Visualization of the Motion
- Development of an User Interface (UI) enviroment using the Maltab App Designer for an easier representation and analysis of the results

Hannover, Germany
INTERN CONTINENTAL AG

Internship in Department: Global Tire Logistics, Warehousing & Distribution
- Database Development with Ms Access
- Development & Implementation of ABCXYZ Analysis into SPOT Tool
- Automation of KPI processes with Excel

01/2016 – 06/2018 Hannover, Germany

STUDENT RESEARCH ASSISTANT INSTITUTE OF CONTINUUM MECHANINS (IKM), HANNOVER, GERMANY

- Simulation Tests with FEAP
- Review of Completeness, Continuity and Convergence of Finite
- Discontinuous Element in 2D
- Matlab Programm for automated creation of continuous and discontinuous Meshes in 2D

DIGITAL SKILLS

CAE

ABAQUS Simulia (Very Good) | Ansys Mechanical (Good) | FEAP (Good)

CAD

SOLIDWORKS (Very Good) | AutoCAD Mechanical (Very Good) | Autodesk Inventor (Good)

Programming

Python (Very Good) | MATLAB (Very Good) | Fortran (Good)

Other Softwares

Microsoft Office Programs (Very Good) | LaTeX (Very Good)

LANGUAGE SKILLS

Mother tongue(s): **GREEK**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
GERMAN	C2	C2	C2	C1	C1
ENGLISH	C2	C2	C2	C2	C2

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

HOBBIES AND INTERESTS

Books:

- Nelson Mandela: Long Walk to Freedom
- The 10-day MBA
- The Toyota Way
- Jack Welch: Winning
- Henry Ford: My Life and Work
- …

Sports:

- Hiking
- Weight Lifting, Strongman
- …