

UMUT SERDAR CIVICI

Cambridge, Massachusetts/UNITED STATES

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EXPERIENCE

Harvard University/United States, Cambridge Massachusetts

Oct 2022 - Present

Research Fellow

- Working as a full-time research fellow in the Harvard John A. Paulson School of Engineering and Applied Sciences, Biodesign Lab. Working on the design, prototyping, and evaluation of soft wearable robots.

Carnegie Mellon University/United States, Pittsburgh Pennsylvania

Sept 2021 - Oct 2022

Research Scholar

- Worked as a full-time researcher in the School of Computer Science, Human-Computer-Interaction Institute, Morphing Matter Lab. Participated in the robotics research project as a co-first author (shared) as well as led my own project in wearable shock-absorbing metamaterials.

FEV Turkey

June 2019 - Sept 2021

Mechanical Design Engineer

- Worked as a Mechanical Design Engineer in the high-speed diesel marine engine (V20) development project, responsible for gas exchange system design, water-cooled cast exhaust manifold design, and several casted engine components (crankcase cover, engine brackets, air ducts). Product development of the system components, which includes concept to detailed design. Siemens NX, CATIA, and PTC Creo are used in the projects.
- Worked in McLaren hybrid engine development project, designed casted engine components in the valve train.

Bosch und Siemens Hausgerate (B/S/H)/Turkey

Jul 2016 - Feb 2017

Mechanical Design Engineering Intern

- Worked in the research and development department at refrigerator fabric. Designing new plastic parts for the top panel housing of the refrigerator, cost reduction by optimizing the design of the part. Siemens NX CAD software was used in this project, and the rapid prototyping of the parts was manufactured by a 3D printer.

General Electric/Turkey

Jun 2015 - Jul 2015

Mechanical Engineering Intern

- Machine shop internship; examination of machining, welding, and metal forming processes in the workshop as well as preparation of 3D models and 2D drawings of manufactured parts.

Self Employed/Turkey

Jun 2012 - Jul 2016

Private Tutor

- Giving Mathematics, Geometry and Physics lectures to high school students.

EDUCATION

Istanbul Technical University, Istanbul/TURKEY

Sep 2017 - Aug 2020

Master of Science, GPA: 3.27/4.00

Department of Mechanical Engineering, Minor: Mechanical Design

Thesis subject: Vacuum Provider Soft Robotic Actuator

Delft University of Technology, Delft/NETHERLANDS

Sep 2018 - Feb 2019

Master of Science, Erasmus (Exchange) Program

Department of Mechanical Engineering

Erasmus+ Grant

SKILLS & LANGUAGES

Software & Modelling; MS Office, Latex, MATLAB, Python, Mathcad

Design & Simulation; Siemens NX, Solidworks, CATIA, PTC Creo, ANSYS (Structural), ABAQUS, Hyperworks, Grasshopper-Rhino

Engineering; Mechanical Design, Engineering first principles, 3D modelling, 2D drawings, GD&T, DFM, DFMEA, Concept to Detailed Design, Structural Simulation, Rapid Prototyping

Languages; Turkish, Native & English, Professional Proficiency, TOEFL IBT 90

PUBLICATIONS & CONFERENCES

Soft Robot Motion under Surface Texture Effects, Journal Paper

Civici, U. and Parlar, Z. "Soft Robot Motion under Surface Texture Effects." *Emerging Materials Research* 9.1 (2020): 1-6. doi number: 10.1680/jemmr.19.00072

Locomotion Control of Soft Robot with Surface Texture, Conference Paper

Conference Proceeding, ICCESN 2018 Antalya/TURKEY, research project about surface texture of tribological effects on soft robotic system, Advisor: Asst. Prof. Dr. Zeynep Parlar, Istanbul Technical University.

Design of Vacuum Provider Soft Robotic Actuator (Under Review)

Journal Paper.

THESIS PROJECTS

Master of Science Thesis, Istanbul Technical University, 2020

'Numerical and Experimental Investigation of Bio-inspired Soft Robotic Actuator that Creates Vacuum'

Octopus inspired outer geometry embedded with unique design of air channel geometries. Manufactured with silicone casting, testing the vacuum performance and experimental validation of numerical models. ABAQUS software is used for the development of the numerical models.

Bachelor of Science Thesis, Yildiz Technical University, 2017

'Computer Aided Manufacturing in Machining Operations'

Designing Crank shaft, Cam shaft and plastic injection molds in SolidWorks and doing computer aided manufacturing (CAM) in Solid-CAM. Parameter optimization of the machining operations such as tool life and tool ways.

REFERENCES

Assoc. Prof. Orhan Cakir at Yildiz Technical University, B.Sc. Thesis Advisor

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Asst. Prof. Zeynep Parlar at Istanbul Technical University, M.Sc. Thesis Advisor

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Asst. Prof. Lining Yao at Carnegie Mellon University, Research Scholar Advisor

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Dr. Dinesh Patel at Carnegie Mellon University, Project Collaborator

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