



Çağlar Uyulan

Date of birth: 20/03/1985 | **Nationality:** Turkish | (+90) 5436506799 |

caglaruyulan1@gmail.com |

<https://publons.com/researcher/5161192/caglar-uyulan/> |

<https://www.researchgate.net/profile/Caglar-Uyulan> |

<https://www.linkedin.com/in/caglaruyulan/> | Skype: gauss77 |

İzmir Katip Çelebi University, Balatçık Mahallesi Havaalanı Şosesi No:33/2
Balatçık Çiğli, 35620, İzmir, Turkey

About me:

My research interest includes;

-Data science, machine&deep learning for modeling and control

-Model reduction of high-dimensional dynamical systems

-Adaptive and robust control techniques for nonlinear systems

I am also studying the specific applications on robot/machinery dynamics&stability and geometric control theory.

About me:

-Mechatronics engineer skilled in control systems design, system engineering, simulations.

-Willing to work with high-level problem solvers.

-Self-motivated team player with a strong desire to learn and the ability to handle multiple projects and tasks concurrently.

-Enthusiastic about working on multi-disciplinary projects.

WORK EXPERIENCE

07/2021 – CURRENT – İzmir, Turkey

ASSISTANT PROFESSOR – İZMİR KATIP ÇELEBI UNIVERSITY

Courses Taught:

Dynamics of Machinery, Dynamics, System Analysis&Control, Fundamentals of Electrical&Electronic Circuits, Fundamentals of Advanced Control Systems, Theory of Mechanism, Mechanical Vibrations, ANNs&Learning Machines, Applied Robotics and Control System Design

Mechanical Engineering Department/Machine Theory and Dynamics |

Professional, scientific and technical activities | <https://www.ikcu.edu.tr/> |

Balatçık Mahallesi Havaalanı Şosesi No:33/2 Balatçık, Çiğli, 35620, İzmir, Turkey

12/2017 – 07/2021 – Zonguldak, Turkey

ASSISTANT PROFESSOR – BÜLENT ECEVIT UNIVERSITY

Courses Taught:

Modelling and Simulation of Dynamical Systems, Robotics and Artificial Intelligence, Advanced Topics in Robotics, Application of Artificial Intelligence in Mechanical Engineering, Applications in Mechanical Engineering I, Applications in Mechanical Engineering II, Computer Programming, Control Systems, Differential Equations, Dynamics of Engineering Systems, Elements of Mechatronics, Energy Principles and

Variational Methods in Applied Mechanics, Engineering Dynamics, Introduction to Electrical-Electronics Engineering

Mechanical Engineering Department | Professional, scientific and technical activities |

<https://w3.beun.edu.tr/> |

Zonguldak Bülent Ecevit Üniversitesi Rektörlüğü İncivez, 67100, Zonguldak, Turkey

07/2012 – 12/2017 – İstanbul, Turkey

UNIVERSITY RESEARCH ASSISTANT – ISTANBUL TECHNICAL UNIVERSITY

- Taught laboratory sessions on robot modelling and control.
- Trajectory and position control applications conducted on Staubli RX160 industrial robot via Val3 programming language.
- Ability to run complex mechatronic systems for test and qualification of design changes.
- Integration of industrial robotics knowledge with related aspects such as dynamics, end-effector design, controls, etc.
- Design and development of custom mechatronics systems, including translating stages, linear motors, sensors, and servos.
- Conducting traction motor tests, vector control applications on PMSM.
- Basic experience with mechatronics behaviour predictive modelling and methods, including “first principle” engineering equations and other techniques.

Studies related to the thesis:

- Identification of the traction motor characteristics suitable for the specific high-speed railway vehicle design.
- Maintaining the railway vehicle lateral stability by analysing the critical hunting speed and derailment types.
- Restricting the railway vehicle design parameters with respect to the safety and reliability concerns.
- Sliding mode traction controller design with Matlab/Simulink.

Mechatronics Engineering Department | Professional, scientific and technical activities |

<http://www.itu.edu.tr/> |

Mechatronics Education & Research Center, Maslak Campus, 34469, İstanbul, Turkey

10/2011 – 10/2012 – İzmir, Turkey

RESEARCH ENGINEER – ENKO VENTILATING AND HEAT ECONOMY SYSTEM TECHNOLOGIES

- Analysing and optimization of heat recovery systems.
- Fan design with ANSYS Fluent.
- Heat transfer and fluid flow calculations for rotating/static parts.
- Developing thermal models.
- Obtaining temperature distributions of machinery parts such as discs, dynamic felts, housings.
- Understanding and evaluating thermal system requirements for the design.
- Coordinating research and testing activities on the development of technical methods and tools.
- Temperature, humidity, and pressure control of heat recovery systems by using CAREL.

Research and Development Department | Electricity, gas, steam and air conditioning supply |

<https://www.enko.com.tr/> | 10049/4 Atatürk OSB Çiğli, 35620, İzmir, Turkey

09/2010 – 07/2011 – Çamlıbel, Cyprus

ARTILLERY OFFICER – TURKISH LAND FORCES

- Giving technical support, and courses related to the artillery system.

Public administration and defence; compulsory social security | <http://www.kkk.tsk.tr/> |

39.MKNZ.P.TÜM.K.LİĞİ Çamlıbel/KKTC, Çamlıbel, Cyprus

12/2008 – 07/2010 – İstanbul, Turkey

MECHATRONICS ENGINEER – ISTANBUL TECHNICAL UNIVERSITY M.E.R.C. (MECHATRONICS EDUCATION & RESEARCH CENTER)

- Modeling and controlling of SHEV's simulation in TESIS.
- Designing the vehicle system dynamics, control, and estimation algorithms (Matlab&Simulink environment) and implementing through dSPACE/ETAS/Microautobox tools on HILS.
- Automatic machine code generation for the real-time system with MATLAB Real-Time Workshop tool.
- Testing the developed algorithms on real-time processors and input/output cards on the HILS.
- Optimizing vehicle and powertrain control systems calibration to improve performance, emissions, fuel economy & safety.
- Good understanding of electrified & hybrid powertrain technologies, transmissions, engine and after-treatment systems, automotive powertrains (Engine, Transmissions, Batteries, Inverters, Electric Machines, and Power Electronics).

Professional, scientific and technical activities | <https://www.meam.itu.edu.tr/> |

ISE (Istanbul Stock Exchange) Entrance, M.E.R.C. (Mechatronics Education & Research Center) Maslak, 34469, İstanbul, Turkey

● EDUCATION AND TRAINING

2013 – 2017 – İstanbul, Turkey

MECHATRONICS ENGINEER (PHD) – İstanbul Technical University

Courses: "Soft Computing, Advanced Topic in Robotics, Machine Learning Applications in Mechatronics, Neural Networks and Fuzzy Logic, Probability Theory and Stochastic Processes, Design of Discrete Control Systems, Optimal Control Theory, Modelling and Control of Robots, Discrete-Event Systems, Multivariable Control Theory, Nonlinear Control Systems, Probabilistic Methods in Robotics, Robust Control Systems"

Field(s) of study

- Engineering, manufacturing and construction

Thesis: Re-adhesion Control and Stability Analysis of High-Speed Railway Vehicles

3.35/4

2007 – 2010 – İstanbul, Turkey

MECHATRONICS ENGINEER (M.SC.) – İstanbul Technical University

Courses: "Engineering Mathematics, Mechatronic System Components, Advanced Control of Mechatronics Systems, Analog&Digital Electronics, Control of Induction Machines, Modelling and Control of Mechatronic Systems, Mechatronic System Design, Signal Processing Applications in Mechatronics, Adaptive Control"

Field(s) of study

- Engineering, manufacturing and construction

Thesis: Modeling of Series Hybrid Electric Vehicle and Application of the Fuzzy Logic-based Energy Manageme

3.67/4

2002 – 2008 – Izmir, Turkey

MECHANICAL ENGINEERING (B.SC.) – Dokuz Eylül University

Courses: "Principle Mechanical Engineering Knowledge, Focused on Thermodynamics"

Field(s) of study

- Engineering, manufacturing and construction

Thesis: Thermal Design of a Single-Stage LiBr/H₂O Absorption Refrigerator

3.03/4

● LANGUAGE SKILLS

Mother tongue(s): **TURKISH**

Other language(s):

| | UNDERSTANDING | | SPEAKING | | WRITING |
|----------------|---------------|---------|-------------------|--------------------|---------|
| | Listening | Reading | Spoken production | Spoken interaction | |
| ENGLISH | C2 | C2 | C1 | C1 | C2 |

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

● DIGITAL SKILLS

My Digital Skills

Programming Languages: C, C++, Python, Matlab | Matlab/SIMULINK | AI platform: Pytorch, Tensorflow etc. | Simscape Multibody (MATLAB add-on: 3D simulation environment) | Ansys Workbench, Ansys Fluent, Ansys (FEA)

● PUBLICATIONS

Comparison of Wavelet Families for Mental Task Classification

<https://www.semanticscholar.org/paper/Comparison-of-Wavelet-Families-for-Mental-Task-Uyulan-Erguzel/2b41877d111bfe086f03d7a3f76aa29e7547889f> - 2016
The Journal of Neurobehavioral Sciences · May 2, 2016

Nonlinear Dynamic Characteristics of the Railway Vehicle

<https://www.degruyter.com/document/doi/10.1515/nleng-2016-0070/html> - 2017
Nonlinear Engineering · Feb 18, 2017

Modeling, simulation and slip control of a railway vehicle integrated with traction power supply

<https://www.tandfonline.com/doi/full/10.1080/23311916.2017.1312680?cookieSet=1>
Cogent Engineering · Mar 25, 2017

Extended Kalman Filter Design for Railway Traction Motor

<http://sujest.selcuk.edu.tr/sumbtd/article/view/436> - 2017
Selcuk University, Engineering, Science and Technology Journal · Apr 14, 2017

Analysis of Time – Frequency EEG Feature Extraction Methods for Mental Task Classification

<https://www.atlantis-press.com/journals/ijcis/25883368> – 2017

International Journal of Computational Intelligence Systems · Jul 26, 2017

Dynamic Investigation of the Hunting Motion of a Railway Bogie in a Curved Track via Bifurcation Analysis

<https://www.hindawi.com/journals/mpe/2017/8276245/> – 2017

Mathematical Problems in Engineering · Jul 27, 2017

Stability and bifurcation analysis of the non-linear railway bogie dynamics

<https://journals.sagepub.com/doi/abs/10.1177/0954406217727304?journalCode=picb> – 2017

Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science · Aug 23, 2017

Modeling, simulation and re-adhesion control of an induction motor-based railway electric traction system

<https://journals.sagepub.com/doi/10.1177/0959651817732487> – 2017

Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering · Sep 30, 2017

Comparison of the re-adhesion control strategies in high-speed train

<https://journals.sagepub.com/doi/10.1177/0959651817737857> – 2017

Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering · Oct 30, 2017

Re-adhesion control strategy based on the optimal slip velocity seeking method

<https://link.springer.com/article/10.1007/s40534-018-0158-x> – 2018

Journal of Modern Transportation · Feb 1, 2018

Derailment analysis based on a new coupled multibody railway vehicle model

<https://www.ingentaconnect.com/content/asp/jcsmd/2018/00000006/00000001/art00001> – 2018

Journal of Coupled Systems and Multiscale Dynamics · Apr 1, 2018

Entropy-based feature extraction technique in conjunction with wavelet packet transform for multi-mental task classification

<https://www.degruyter.com/document/doi/10.1515/bmt-2018-0105/html> – 2019

Biomedical Engineering / Biomedizinische Technik · Mar 9, 2019

A robust-adaptive linearizing control method for sensorless high precision control of induction motor

<https://journals.sagepub.com/doi/full/10.1177/0020294019833072> – 2019

Measurement and Control -London- Institute of Measurement and Control · Apr 15, 2019

Elektroensefalografi Tabanlı Sinyallerin Analizinde Derin Öğrenme Algoritmalarının Kullanılması

[https://www.researchgate.net/publication/](https://www.researchgate.net/publication/333022003)

[333022003 Elektroensefalografi Tabanlı Sinyallerin Analizinde Derin Öğrenme Algoritmalarının Kullanılması In Turkish](https://www.researchgate.net/publication/333022003) – 2019

The Journal of Neurobehavioral Sciences · Apr 24, 2019

Hunting stability and derailment analysis of the high-speed railway vehicle moving on curved tracks

<https://www.inderscience.com/info/inarticle.php?artid=102685> – 2019

International Journal of Heavy Vehicle Systems · Sep 9, 2019

Robust H-infinity control applied on a fixed wing unmanned aerial vehicle

<http://www.techno-press.org/content/?page=article&journal=aas&volume=6&num=5&ordernum=2> – 2019

Advances in Aircraft and Spacecraft Science · Sep 25, 2019

A Preliminary Study of Region of Interest Based Functional Connectivity Analysis for Classification of MDD and Healthy Subjects Using Graph Metrics

<https://novapublishers.com/shop/optimization-and-robotic-applications/> – 2019

Nova Science Publishers, Inc. · Dec 1, 2019

A Review on EEG Controlled BCI: Deep Learning Approach

<https://novapublishers.com/shop/human-computer-interaction/> – 2020

Nova Science Publishers, Inc. · Jan 1, 2020

A Conceptual Design Synthesis for the Model Satellite

[https://www.researchgate.net/publication/](https://www.researchgate.net/publication/338765490)

[338765490 A Conceptual Design Synthesis for the Model Satellite](https://www.researchgate.net/publication/338765490) – 2020

Journal of Aeronautics and Space Technologies · Jan 23, 2020

Simulation and time-frequency analysis of the longitudinal train dynamics coupled with a nonlinear friction draft gear

<https://www.degruyter.com/document/doi/10.1515/nleng-2020-0003/html> – 2020
Nonlinear Engineering · Feb 7, 2020

Entropy: A Promising EEG Biomarker Dichotomizing Subjects With Opioid Use Disorder and Healthy Controls

<https://journals.sagepub.com/doi/10.1177/1550059420905724> – 2020
Clinical EEG and neuroscience: official journal of the EEG and Clinical Neuroscience Society (ENCS) · Feb 11, 2020

Optimization of radial inflow wind turbines for urban wind energy harvesting

<https://www.sciencedirect.com/science/article/abs/pii/S0360544220308793?via%3Dihub> – 2020
Energy · May 12, 2020

Major Depressive Disorder Classification Based on Different Convolutional Neural Network Models: Deep Learning Approach

<https://journals.sagepub.com/doi/10.1177/1550059420916634> – 2020
Clinical EEG and neuroscience: official journal of the EEG and Clinical Neuroscience Society (ENCS) · Jun 3, 2020

A Polynomial Differential Quadrature-based Numerical Scheme to Simulate the Nerve Pulse Propagation in the Spatial FitzHugh-Nagumo Model

<http://scik.org/index.php/cmbn/article/view/4666> – 2020
Communications in Mathematical Biology and Neuroscience · Jun 10, 2020

Veri Tabanlı Mühendislikte İndirgenmiş Modeller (İM) ve Uygulamaları

https://www.researchgate.net/publication/344154780_Veri_Tabanli_Muhendislikte_Indirgenmis_Modeller_IM_ve_Uygulamalari – 2020
ARGE DERGİSİ-FİGES İLERİ MÜHENDİSLİK VE ARGE TEKNOLOJİLERİ DERGİSİ · Sep 1, 2020

Development of LSTM&CNN based hybrid deep learning model to classify motor imagery tasks

<http://scik.org/index.php/cmbn/article/view/5265> – 2021
Communications in Mathematical Biology and Neuroscience · Jan 12, 2021

Prediction of the Development of Depression and Post-traumatic Stress Disorder in Sexually Abused Children using a Random Forest Classifier

<https://www.sciencedirect.com/science/article/abs/pii/S0165032720328500> – 2021
Journal of Affective Disorders · Jan 15, 2021

Investigating Bio-interface Effects of Chronic ELF-MF Exposure Before and After Neonatal Life on Rat Offspring Using Spectroscopy and Biochemical Assays

<https://biointerfaceresearch.com/wp-content/uploads/2021/04/20695837121.795808.pdf> – 2021
Biointerface Research in Applied Chemistry · Apr 26, 2021

Depression Diagnosis Modeling with Advanced Computational Methods: Frequency Domain eMVAR and Deep Learning

<https://journals.sagepub.com/doi/abs/10.1177/15500594211018545?journalCode=eegb> – 2021
Clinical EEG and neuroscience: official journal of the EEG and Clinical Neuroscience Society (ENCS) · Jun 3, 2021

Watt Six-Bar Compliant Mechanism Analysis based on Kinematic and Dynamic Responses

https://www.researchgate.net/publication/352854581_Watt_Six-Bar_Compliant_Mechanism_Analysis_based_on_Kinematic_and_Dynamic_Responses – 2021
Scientific Research Communications · Jul 27, 2021

A deep learning approach to evaluating sex differences in antidepressant response to neuromodulation using EEG in major depressive disorder

[https://www.brainstimjrn.com/article/S1935-861X\(21\)00519-2/fulltext](https://www.brainstimjrn.com/article/S1935-861X(21)00519-2/fulltext) – 2021
Brain Stimulation · Nov 1, 2021

Design and Stability Analysis of a Robust-Adaptive Sliding Mode Control Applied on a Robot Arm with Flexible Links

<https://www.mdpi.com/2571-631X/5/1/1> – 2021
MDPI/Vibration · Dec 30, 2021

Analysis of an e-scooter and rider system dynamic response to curb traversing through physics-informed machine learning methods

<https://journals.sagepub.com/doi/abs/10.1177/09544070221100111?journalCode=pidb> – 2022
Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering · May 17, 2022

ID:15886 Deep Learning Approach to Evaluate Sex Differences in Response to Neuromodulation in Major Depressive Disorder

<https://www.sciencedirect.com/science/article/abs/pii/S109471592200441X?via%3Dihub> – 2022
Neuromodulation · Jun 3, 2022

● CONFERENCES AND SEMINARS

07/09/2021 – 08/09/2021 – Online

Aerodynamic Investigation of an E-Scooter & Rider System Through Computational Fluid Dynamics Approach

OTEKON 2020 · Sep 7, 2021

https://www.researchgate.net/publication/360243772_Aerodynamic_Investigation_of_an_E-Scooter_Rider_System_Through_Computational_Fluid_Dynamics_Approach

21/06/2021 – 25/06/2021 – Online

A Deep Learning Based Comparison of Response to TMS Treatment for Sex Differences in MDD Subjects

The Organization for Human Brain Mapping (OHBM) · Jun 21, 2021

https://www.humanbrainmapping.org/files/ohbm2021_abstracts_v2.pdf

17/03/2019 – 19/03/2019 – Los Angeles, USA

Application of Deep Convolutional Neural Network for EEG Based Diagnosis of MDD Subjects

Published in: Learning Applications in Neuroscience SBMT-2019 · Mar 17, 2019 Conference: Society for Brain Mapping & Therapeutics

https://www.researchgate.net/publication/331907869_Application_of_Deep_Convolutional_Neural_Network_for_EEG_Based_Diagnosis_of_MDD_Subjects

26/08/2018 – 29/08/2018 – Chicago, Illinois, USA

Sound Field Calculations of a Diesel Generator with Enclosure by Finite Element Analysis

Published in: INTER-NOISE and NOISE-CON Congress and Conference Proceedings, InterNoise 18.

https://www.researchgate.net/publication/326175783_Sound_Field_Calculations_of_a_Diesel_Generator_with_Enclosure_by_Finite_Element_Analysis

07/09/2017 – 08/09/2017 – London, UK

Mobile Robot Localization Via Sensor Fusion Algorithms

Publisher: IEEE

Published in: 2017 Intelligent Systems Conference (IntelliSys)

<https://ieeexplore.ieee.org/document/8324245>

PROJECTS

03/2022 – CURRENT

Development of Classification Methodologies Based on Biomedical Data Using Deep Learning

This project, it is aimed to classify data of biomedical origin with a deep learning method and to develop a generalizable and interpretable methodology that will automate the process.

The subject covers three major areas of neuroscience, signal processing and computer science.

Artificial intelligence used in health informatics covers applications when human decision-making processes are insufficient, especially in the presence of multidimensional data.

The applications can be extended to the separation of sub-groups such as patient-healthy, the treatment responsive-non-responsive, and the determination of disease sub-types.

Many companies have been started to produce software aimed at improving diagnosis and treatment algorithms using artificial intelligence applications.

In this project, the multimodality/multiclass classification models, that automatically extract the features of synthetic processed data having different modalities, will be built using various deep learning methods (GANs, CNNs, LSTMs, Variational Autoencoders etc.) as well as hyperparameter optimization (Grid Search, Random Search, Metaheuristic etc.).

The main objective is to create predictive models that find optimal separable hypersurfaces corresponding to the problem.

Funded by İzmir Katip Çelebi University: 2022-GAP-MÜMF-0046

03/2022 – CURRENT

High-Efficient BLDCM&Drive Control System Design and Implementation for Electric Vehicles

It is aimed to develop an effective controller tracking precise variable speed values, performing high efficiency and power density for BLDCM integrated Electric Vehicle (EV) that can be charged by using plug-socket within the scope of the project.

Torque and speed control of BLDCM, parameter estimation and optimization process will be performed together.

Space vector modulation (SVM) will be used to drive the semiconductor switches.

Field oriented (FOC) or direct torque control (DTC) strategies will be used under the control of the BLDCM.

Position sensorless estimation methods (back-EMF or EKF-Extended Kalman Filter) will be used.

As a controller, robust control methods, especially sliding mode control, will be used to provide the desired speed and current values.

Subject and Scope

* The motor and its drive should target the electric drive of a defined commercial or passenger scooter.

* The electric motor and its drive must be integrated into the vehicle.

* The efficiency of the motor and its drive should be tested and evaluated within the framework of the urban cycle.

• Simulation and nonlinear control of high-efficiency BLDCM with increased performance, such as high efficiency, reduction in weight and volume, but increase in power density (kW / kg, kW / l) plus field-oriented control (FOC) or direct torque control (DTC).

• Inverter design and implementation with semiconductor switch elements

• EV modelling, simulation, power electronics and system design software

• Electric motor loading and development of test setup

• Thermal management solutions

• Studies to increase energy efficiency in various driving conditions

• Integration of the motor and drive system with the road driving scenarios and simulation

01/2020 – 07/2021

Model Rocket Design

The conceptual design, Computational Fluid Dynamic (CFD)-based optimization, dynamical analysis, and manufacturing of an original single-stage model rocket, which is named as Orionid, is presented including with the functional subsystems for recovery, avionics and telemetry, payload, rocket engine and structural subsystems for the nose cone, body tubes, motor mounts, fins, and other components inside the rocket.

Some of the critical design goals can be listed as reducing weight, improving accessibility to the rocket internals, aerodynamic performance, stability, ramp velocity, pre-defined altitude under the constraints of

time, budget, and manufacturing capabilities. The solid propellant-powered model rocket incorporating Global Positioning System (GPS), Inertial Measurement Unit (IMU), barometric pressure sensor, camera, data transmitter module, Arduino Nano micro-controller platform, is designed for an apogee of 3000 m. while carrying a 4.28 kg. payload. This study contains component-level design and integration in SolidWorks, aerodynamic, structural and thermal analysis, parametric design optimization in ANSYS FLUENT, ANSYS Static Structural, ANSYS DesignXplorer, respectively, and fabrication.

11/2018 - 01/2021

3D Trajectory Control of a BCI based Robotic Arm

In this project, we aim to control a 6-DOF robotic arm via a brain-computer interface that is created using artificial intelligence methods. To do this first of all a mental/physical task-based electroencephalogram (EEG) data is collected from the subject. The subject will be thinking that s/he is performing the physical activity (such as images of repetitive right arm movements, the imagination of repetitive left arm movements etc.) or performing mental activities (such as mathematical operations, reciting the alphabet backwards etc.) The raw EEG data is first collected from the subject and processed using signal processing methods (principal component analysis, autoregressive model, wavelet packet decomposition etc.) to get valuable features prior to the classification process. The feature sets are given to the modelling process (artificial neural network, support vector machine etc.) to generate a model with high classification accuracy. On the third step, in order to select more informative features from the obtained feature set, feature selection methods (genetic algorithm, ant colony optimization, particle swarm optimization etc.) will be assigned and the feature weight values will be calculated accordingly between 0 and 1. Therefore a model with higher accuracy will be created using less number of features. Finally, in order to enable the user to move the end effector of a 6-DOF robotic arm through 6 directions, Matlab's graphic user interface module will be used to design a brain-computer interface that will serve to the real-time interconnection of the subjects with the robotic arm. With this study, the patients with the progressive neuromuscular disorder, also known as amyotrophic lateral sclerosis (ALS), can think just fine, but they gradually lose their ability to move, speak, and breathe. Now, with this approach and application a non-invasive device, that detects brain waves is helping these patients interact with the world.

12/2016 - 07/2019

Implementation of Radial Turbine Architecture in the Field of Wind Energy

Funded by the Council of Higher Education

YÖK_Project ID: 2515324

09/2010 - 09/2013

Fuel Consumption and Emission Minimization-based Optimal Control System Design in SHEV's

Funded by the Scientific and Technological Research Council of Turkey

(TÜBİTAK_1010E117 EVRENA, EEEAG - Elektrik, · Elektronik,·Enformatik· Araştırma Destek Grubu_Project ID: 3028695)

● **ORGANISATIONAL SKILLS**

Analytical Thinking

Problem Solving

Project Management

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Scientific Writing

● **HOBBIES AND INTERESTS**

Having Strong Interest on Information Technology and Science

Playing Chess

Playing Computer Games

● **DRIVING LICENCE**

Driving Licence: B

● **RECOMMENDATIONS**

Metin Gökaşan – Professor – gokasan@itu.edu.tr – (+90) 5324717526

Istanbul Technical University, Control Engineering Department

Türker Tekin Ergüzel – Associate Professor – turker.erguzel@uskudar.edu.tr – (+90) 5054970211

Üsküdar University, Computer Engineering Department

Seta Bogosyan – Professor – bogosyan@itu.edu.tr – (+90) 5326456553

Istanbul Technical University, Control Engineering Department