Seyit Kubilay ULUÇAY

Istanbul, TURKEY | kubilay.ulucay@ozu.edu.tr | +90 555 140 32 48 | ulucay.org |linkedin.com/in/kubilayulucay
github.com/kubilayulucay

Education

Özyeğin University, B.Sc. in Electrical and Electronics Engineering, – Istanbul, TURKEY *2021 – 2025*

- Cumulative GPA: 2.97 / 4.00
- Honors: 50% Performance Scholarship

Uğur College High School, High School Diploma – Kocaeli, TURKEY *2017 – 2021*

- Grade: 94.10 / 100.00

Experience

Jr. Test Engineer, Accenture – Istanbul, TURKEY *Janurary 2026 – Present*

- Joined to Accenture as Jr. Test Engineer in Industry X team.

Intern, R&D Department, BEKO R&D Advanced Sensor Technologies – Istanbul, TURKEY *July 2024 – Aug 2024*

- Collaborated within a R&D team to develop and test a patented floor detection system, gaining experience in corporate R&D processes.
- Focused on implementing sensor-based power management to optimize cleaning performance, performing data analysis to validate results.
- Integrated and tested advanced sensors for a newly patented floor detection system, conducted data analysis, and created documentation.

Undergraduate Assistant, Özyeğin University, Faculty of Engineering – Istanbul, TURKEY *Mar 2023 – June 2023*

- Provided hands-on hardware support for an Autonomous Driving course, assisting students with NVIDIA Jetson Nano based vehicle conversions.
- Led teams in assembling and troubleshooting hardware systems, facilitating practical learning and complex problem-solving.

Part-timer, Student, Özyeğin University, Student Services – Istanbul, TURKEY *June 2023 – Sep 2023*

- Assisted students with inquiries regarding transfers, minor/major applications, and enrollment processes.
- Developed and implemented a Microsoft Power Automate workflow for course assignments, reducing manual processing time by approximately 50%.

Projects

Battery Health & Performance Management: Senior Project *STM32, KiCad, MATLAB/Simulink*

- Co-designed, developed, and fabricated a complete instrumentation system for real-time monitoring of Li-ion batteries.
- Implemented a novel active cell balancing algorithm, utilizing an STM32F407 Discovery Board, with validation confirmed through extensive MATLAB/Simulink simulations.
- Interpreted electrical wiring diagrams using KiCad to create a custom PCB, and performed troubleshooting on the prototype.
- Integrated INA333 instrumentation amplifiers and TMP36GZ sensors, performing calibration and data analysis to ensure system accuracy.

Remote-Controlled Axial Flux Motor *Arduino, NRF24, ESC, 3D Printing, PCB*

- Co-designed, built, and tested a custom electric-powered axial flux motor (including hand-wiring coils) as part of a two-person project team.
- Implemented a custom remote controller using NRF24 wireless modules for system operation.

Wind Turbine Grid Integration Analysis *PowerWorld Simulator*

- Performed data analysis on the impact and cost-effectiveness of different wiring configurations for grid integration of wind turbines.
- Utilized PowerWorld for pre-defined detailed system modeling, analysis, optimization, and documentation.

PLC Automation Systems *Schneider EcoStruxure Control Expert*

- Co-developed and programmed automation logic for a simulated traffic light system to reduce waiting time optimally and created a functional toy claw machine.
- Gained practical experience in PLC programming, ladder logic, and industrial automation concepts.

Servo Actuated 3-Axis Gimbal Arduino Nano, MPU6050 IMU, Servos, 3D Printing

- Co-designed and built a 3-axis gimbal using modified 3D models and servo motors.
- Developed Arduino code to calibrate and process raw data from an MPU6050 IMU via I2C connection.
- Mapped processed IMU data to control servo positions for stabilization, overcoming challenges with a defective initial sensor.

Machine Learning in Finance: Bitcoin Market Analysis *Python, Pandas, Scikit-learn (BART), Matplotlib*

- Co-investigated the correlation between daily Twitter volume and Bitcoin market fluctuations using the BART model, finding a positive correlation.
- Performed time-series analysis and prediction.

Zumo Robot Object Detection & Counting *Arduino (C++), Zumo, IR Sensor, Reflectance Sensors*

- Co-developed an algorithm for a Zumo robot to navigate a defined area, detect obstacles using IR and reflectance sensors, and count them.
- Implemented system logic for multi-angle scanning to improve accuracy and user notification via LED and buzzer.
- Successfully demonstrated functionality in various scenarios, identifying limitations in edge case detection.

Deforestation Analysis & Solution Proposal *Research Methods, Statistical Analysis, Presentation*

- Researched causes, consequences (environmental/socio-economic), and existing solutions for deforestation in Turkey's Black Sea region.
- Analyzed and presented statistical data related to deforestation trends and impacts.
- Collaborated on proposing an "Industrial Forest Project" as a sustainable, long-term solution.

Technical Skills

Languages: Turkish (Native), English (Fluent), German (Beginner)

Software Languages: Python, MATLAB, Arduino C/C++

Software & Tools: LTSpice, MATLAB, Simulink & Simscape, Schneider EcoStruxure (PLC), PowerWorld, KiCad, Microsoft Power Automate, MS Office Suite

Hardware: STM Time-of-Flight (ToF) Sensors, STM32 Boards & Sensors, NVIDIA Jetson Nano, Arduino, Raspberry Pi, Electronics Lab Equipments

Competencies: Data Acquisition, System Design & Fabrication, Data Analysis, Troubleshooting, Cross-Functional Collaboration, Problem Solving

Extracurricular Activities

IEEE Özyeğin University Student Branch, President of the Supervisory Board (2024-2025), Chairman (2023-24), RAS Board Member (2022-23), RAS Crew (2021-22) – Istanbul, TURKEY *2021 – 2025*

- Hosted major IEEE events: 2021 TR RAS Congress and 2023 ComSoc Summit at Özyeğin University.
- Significantly increased annual branch activity, growing event numbers from 4 to 23 within two years.
- Expanded club membership substantially from 103 to 652 members over two years.

Peer Advisor, Özyeğin University – Istanbul, TURKEY *2024 – 2025*

- Guide newly enrolled students through their academic journey and university life, providing support and resources.

Volunteer, Özyeğin University Clubs Joint Volunteer Event – Istanbul, TURKEY *Apr 2023*

- Volunteered to welcome and engage with children affected by the 2023 earthquake as Ozyegin student clubs.

Competitor & Captain, Robotics Competitions – Kocaeli, Turkey *2019 – 2020*

- KELEBEKRO 19 (Gebze Technical Univ.): 1st Place - Mini Sumo Robot Category
- İTÜRO 2019 (Istanbul Technical Univ.): 2nd & 3rd Places - Micro Sumo Robot Category

Member, Uğur College Model United Nations (MUN) Team – Kocaeli, TURKEY *Sep 2019 – June 2020*

- Represented Nigeria, researched international issues, and collaborated to propose solutions.

Automation and Logistics Simulation, Factorio

- Practical skills were developed in complex system design, process optimization, and bottleneck analysis.
- Experience was gained in resource management and efficiency improvements by designing large-scale automation chains.