Ahmet Güneş

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Objective

- During my education and business life, I have developed myself in research, self-motivation, entrepreneurship, and acquiring different skills. Also, I aim to continue my self-development with experienced engineers and to reach this goal by joining you in your company.

Education

ELECTRICAL & ELECTRONICS ENGINEERING | 2014-2019 | ESKISEHIR OSMANGAZI UNIVERSITY

- Domain: Nonlinear Control Systems, Robotics, Signal Processing, Artificial Intelligence
- Taken Courses Included: Advanced Calculus, Circuit Analysis, Digital Systems, Electromagnetics, Electronics, Communication, System and Signals, Principles of Energy Conversions, Microcomputer, DSP System Design, Linear Control Systems, Nonlinear Control Systems, PLC Automation Systems, Object Oriented Programming, Fuzzy Logic
- Ales Score: 88 ~GRE: 750 ~GMAT: 660

WEB DESIGN AND CODING | 2017-2020 | ANATOLIA UNIVERSITY

- Domain: Web Design, Image Processing, Machine Learning

Languages

TURKISH	ENGLISH	GERMAN	FRENCH
Native Language	Upper-Intermediate	Elementary	Pre-Intermediate

Skills

LANGUAGES AND PROGRAMMING

C/C++, C#, MATLAB/Simulink, Assembler, Proteus, LTSpice, Altium, Eagle, Fritzing, Blender, AutoCAD, Microsoft Office, Photoshop, Arduino, PIC, PLC, Python, Multisim, LabView, CCS

PERSONAL RESEARCH

Robotics, Machine Learning, Automation, Artificial Intelligence, Brain Signals

COMMUNITIES

IEEE, Robotic Club (in the university), EMO (Electrical Engineers Room), Ottoman Culture and Civilization Club (founder member, president-present)

VOLUNTEER EXPERIENCES

- In the fall semester of 2017-2018, I gave the lessons of Computer Programming courses in the university as an assistant.
- Volunteer Arduino Trainer
- Volunteer Youth Leadership (Ministry of Youth and Sports)
- Volunteer Training Activities (in Primary and High School)
- Advanced Driving Instructor
- Head of Graduation Project Group (from 09.2018 to present)

Experience

TRAINEE R&D ENGINEER | GRUP ARGE ENERGY AND CONTROL SYSTEMS | 2018 SUMMER

- The products on the production line were checked.
- Inductive and capacitive load cards drawing, production and testing operations were undertaken within the scope of R & D.
- A test device was developed during the internship. This test device was used to realize the accreditation of the panels of the compensation devices produced and the measuring device included in it.
- PCB card drawing was made and new versions of the cards were updated.
- In addition, problems have been encountered in the feeding paths of PCB boards and solutions have been reached.
- In addition, faulty products and failures that come to service are reported.

TRAINEE ENGINEER | ULAK HABERLESME INC. | 2019 SUMMER

- The company has been established by ASELSAN and Presidency of Defence Industries.
- 5G Core project codes were prepared and documented.
- Doxygen Blocks of the codes within the scope of the project were written. A web server and a web site have been installed to access the generated documentation files from all computers.
- HTML and CSS for graphic design processes were studied under the web site.
- For 5G, NRF (Access Token, NF Discovery, NF Management and Utility) codes were developed in C ++ language and an active role was played in these sections.
- Issue-bug tracker programs were proposed to enable the teams to speak the same language in this project, which was performed in different teams and locations, and necessary additions were added to this program and presented to the superiors. (TRAC Program)

EMBEDDED SYSTEM R&D ENGINEER | GRUP ARGE ENERGY AND CONTROL SYSTEMS COMPANY | 10.2019 - 12.2019

- Development tests of Compensation Control Devices were made.
- Arrangements have been made to provide some convenience on the Compensation Controller Devices system codes.
- The FPGA system was reconsidered and some conveniences were added.
- Development tests of the device group called Small Relay Group were carried out.
- For the Small Relay Group production tests, a test mechanism that can test multiple products at the same time and accommodate 4 different test devices on a single card was made. Autodesk Eagle program was used in this card drawing.
- By doing reverse engineering, the Small Relay Group devices of all companies in the market were examined and their circuits were analysed. Also, all these transactions have been reported.

HARDWARE DESIGN R&D ENGINEER | GRUP ARGE ENERGY AND CONTROL SYSTEMS COMPANY | 12.2019 – PRESENT

- Various structures and circuits of devices of many companies in the market were analyzed by reverse engineering. These structures basically; supply, NFC, MCU, relay, etc. structures are like.
- The circuits of "Astronomical Time Relay" devices in the market were analyzed by reverse engineering, were simulated via LTSpice and STM brand processors were examined.
- Wide range supply (12V-240VAC/DC) structures and SMPS structures have been examined.
- Schematic and PCB layout drawings of the "Astronomical Time Relay" project have been completed via Altium. The device is a device that can be supplied in a wide range (12V-240VAC/DC), NFC (ST25DV64K), high contact capacity, low energy consumption, additional reserve feature by supercapacitor (12 hours) and battery (CR2032 - 5 years).
- The "Test Setup" mentioned above has been revised.

Personal Projects

VEHICLE CONTROL BY HAND GESTURE

- The project included a four-axis gyroscope.
- Hand movement data is transferred to the vehicle as 4-bit by using single channel.
- While integrating data, special integrated circuits are used.
- Commands were transferred to the vehicle by using Rf433 Mhz from the control unit on the hand.

THE NOISELESS EEG SIGNAL MEASUREMENT CIRCUIT DESIGN

- In this study, which is my graduation project, first of all, the literature was searched. Nearly a hundred articles and documents have been read and scanned.
- The project consists of two main parts. The first is the analog circuit part and the second is the digital circuit part.
- In the first part, an analog filter device is designed. This filter is designed because a bandpass filter is required to receive analog signals.
- Since the EEG signals have low voltage values, the amplifier circuit is designed before the filter. In the office, an extremely noiseless instrumental strengthening was used.
- A precision notch filter is designed at the input and output of the circuit to prevent 50 Hz disturbance signals.
- Thus, an ultra-sensitive and portable EEG Signal Measurement Device has been designed.
- Later, trial circuits were installed on breadboard. During this time, several different PCBs were drawn.
- The design has been decided to be four-layer so that the top and bottom floors are surrounded by grids to isolate noise.
- However, the circuit board is built on a single layer due to budget constraints.
- The second main part of the project, the digital filter design, was designed after the analog part was completed.
- The NI LabVIEW program was used when designing the digital circuit.
- The signals obtained from the NI LabVIEW program are separated into five basic signals with the help of the MATLAB program and these signals are displayed on MATLAB.
- The project was undertaken as a responsible and chairman. The project was demanded to receive TUBITAK 2209-B support.

DESKTOP APPLICATION AND COMPUTER GAME DESIGN USING OBJECT ORIENTED METHODS

- The project was designed as a final project for Object-Oriented Programming II course.
- Design has been realized by using the advantages of object-oriented programming methods and techniques.
- Inheritance and polymorphism properties were used.
- Python and QtDesigner programs and tools are used in the application.

WIRELESS ENERGY TRANSMISSION

- This project was launched as a 2018 graduation project. He was actively involved in the project team.
- A long-term literature review was conducted.
- Electrical energy is transmitted without cable from a distance of approximately 7 cm.
- Electricity transfers from an energy source via two coils.
- Resonance values were adjusted precisely.
- Transistors such as 2SJ56, 2N2222 were used and the Timer55 circuit was switched off.
- The project was carried out jointly with the support of Arçelik.

ENTRY AND EXIT DOOR SYSTEM WITH RFID

- In this project where radio frequencies were used, it was determined whether or not the persons entering and leaving were notified.
- In line with the objective, many more expensive projects were produced than other methods such as GPRS use.
- Designed similar to the automatic switching system, the system has been tried and started by two private companies.
- In addition, the project is planned to be used in primary and secondary schools.

DIGITAL CLOCK DESIGN WITH PIC16F877

- 10-bit clock design with 8-bit component.
- All written codes are at the "hand assembly" level.
- In addition, various functions have been added to the design to provide functionality.

DETECTION OF DYSLEXIA DISEASE WITH ANALYSIS OF EEG SIGNALS USING FUZZY LOGIC METHOD

- Initially, intelligence test is performed for individuals suspected of illness. The purpose of this test is to determine whether the learning disability is caused by intelligence problems.
- If the individual does not have mental retardation, EEG analysis is started.
- In the EEG analysis, the signals received from the person are examined within the scope of fuzzy logic rules and the percentage of the person being sick is output.
- It is more accurate to examine individuals at an early age within the scope of the project in order to be effective in the detection and treatment process.
- In addition, this project was selected as the winner of Fuzzy Logic course end-of-year projects.

ADAPTIVE CRUISE CONTROL MODELLING WITH FUZZY LOGIC

- The adaptive speed controller is designed by integrating blurry logic methods.
- Although the distance to the vehicle in front is checked frequently, the workload is reduced.
- In addition, when the vehicle leaves the road, it is attempted to reduce its speed in a controlled manner and to enter the road.
- The model is simulated with MATLAB and Simulink.

OFF-ROAD VEHICLE SUSPENSION AND DIRECTION SYSTEMS MODELLING

- This project was prepared as a term project of Linear Control Systems course.
- Suspension and steering of a military vehicle were carried out using lead-lag controllers.
- Model tested with Simulink.
- All possible scenarios have been tested and model phases tested.

ANIMATION OF A ROBOT IN A FACTORY

- By using Blender 3D animation and modeling program, detailed modeling and process animation has been prepared in order to make a robot used in the factory more understandable.
- This animation was used in a technology fair at the promotional stands of the same factory.
- This 3D modeling and animations are important for a better understanding of the operating principles of the devices.

FILTER DESIGN

- Analog filters are designed by using active circuit elements.
- Kalman, Sallen-Key, Bessel, Butterworth, Gaussian and Chebyshev filters are designed.
- Multi-grade filters tested in the laboratory with OPA228.
- In addition, digital filters have been made by using TI C2000 series DSP.

THE OTHER PROJECTS

- Web Sites Design
- Line Follower Robot
- 3D Printer
- Quadcopter
- Unmanned Watercraft
- Smart Board with LDR
- Basic Robot Arm
- Spider Robot
- Delta Mounting Robot

References

ACADEMIC REFERENCES

- Osman Parlaktuna – Professor in Eskisehir Osmangazi University – +902222393750 / 3262 – oparlak@ogu.edu.tr
- Rifat Edizkan – Head of Department, Professor in Eskisehir Osmangazi University – +902222393750 / 3263 – redizkan@ogu.edu.tr
- Semih Ergin – Supervisor of the Graduation Project, Associate Professor in Eskisehir Osmangazi University – +902222393750 / 3265 – semihergin26@gmail.com
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PROFESSIONAL REFERENCES

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