

# MUJGAN HUSEYNLI (SHE/HER)

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## EDUCATION

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**George Washington University** - MSc in Electrical Engineering

Washington, D.C.

GPA: 3.97/4.0

Jan 2023 - Dec 2024 (Expected)

*Thesis:* Design and Analysis of an FPGA-based Controller for GAN-based Three-Phase Inverters: Efficiency, Performance, and Reliability Optimization

*Related Courses:* Electric Power Generation, Power Distribution Grids, Power Electronics, Smart Power Grids, Power System Protection

**University of Alcalá** - Erasmus+ Exchange Program

Alcalá, Spain

Spent a semester on the Electronics and Mechanics Program

Jan - July 2020

**Baku Higher Oil School** - BSc in Electrical Engineering

Baku, Azerbaijan

GPA: 91.63/100

Sep 2017 - June 2022

*Thesis:* Design of Level Control Loop by Control Valve at Emerson Test Rig

*Related Courses:* Calculus, Physics, Digital Electronics, Analog Electronics, Control Theory, Digital Signal and Data Processing, Industrial Computer Networks, Embedded Systems

## PUBLICATIONS

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**Design and Analysis of an FPGA-based Controller for GaN-based Three-Phase Inverters: Efficiency, Performance, and Reliability Optimization** *Master's Thesis, ECE Department, George Washington University, June 2024.* [Mujgan Huseynli](#) [\[paper\]](#) [\[slides\]](#) (Work in progress)

**Report on Hydrogen Energy Storage** *Technical Report, ECE Department, George Washington University, May 2024.* [Mujgan Huseynli](#) [\[paper\]](#)

**Design of Level Control Loop by Control Valve at Emerson Test Rig** *Bachelor's Thesis, Process Automation Engineering Department, Baku Higher Oil School, May 2022.* [Mujgan Huseynli](#) [\[thesis\]](#) [\[extended abstract\]](#)

**Assistive System For Visually Impaired People** *The 2nd International Scientific Conferences of Students and Young Researchers, May 2021.* [Mujgan Huseynli](#), Aynur Asadova, Maryam Allahverdiyeva, Yagut Badalova [\[paper\]](#) [\[slides\]](#) (All authors contributed equally)

## EXPERIENCE

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**Honeywell Process Solutions**

Charlotte, NC

*Project & Automation Solutions (PAS) - Project Engineer I*

Sep 2023 - Now

- Configured and tested Honeywell systems (*Experion PKS, C300 PLC and FGS*).
- Developed specifications for third-party equipment and instrumentation.
- Contributed to the design/development of project plans and schedules.
- Reviewed, developed and prepared project documentation and drawings (*DCS, Marshalling, Server, Network, System Cabinet, I/O Allocation, System Architecture, Power and Heat Calculation*) following standards, best practices and use of company engineering tools.
- Performed internal tests and *Pre-FAT, FAT, SAT* activities of Honeywell control systems at company facilities and customer sites.
- Configured devices such as *Controllers, I/O Modules, and Control Firewalls*.
- Provided technical support and troubleshooting for control systems during installation and commissioning.

**SOCAR Polymer**

Baku, Azerbaijan

*Junior Instrumentation and Control Engineer*

July 2022 - Jan 2023

- Participated in plant automation modernization which increased operation efficiency by 20%.
- Delivered frontline installation support and led *Root Cause Failure Analysis (RCFA)* initiatives, reducing equipment failures by 15%.
- Coordinated with *EPCs* and *OEMs*, ensuring project deliverables met critical timelines.

- Wrote field inspection reports, maintaining compliance with regulatory standards.
- Participated in the configuration/testing of the *Integrated Control and Safety System (ICSS)*.

## SOCAR Polymer

*Instrumentation and Control Engineer Intern*

Baku, Azerbaijan

Aug - Oct 2021

- Collaborated with team to diagnose and recalibrate faulty equipment, increasing machine uptime by 30%.
- Developed a pump overhaul alert system using *SEBOL* Programming Language in *Yokogawa Centum VP* DCS, reducing downtime by 25%.

## Emerson

*Instrumentation and Control Engineer Intern*

Baku, Azerbaijan

Jul 2021 - Sep 2021

- Gained expertise in *Rosemount* measurement technologies for temperature, flow, pressure, and level.
- Learned valve sizing and selection using *Fisher Specification Manager*.
- Developed proficiency in *DeltaV* distributed control systems, controller setups, communication protocols, and PLC programming.

## HONORS AND AWARDS

- **ASPIRE 2023 Women's Workshop** Lisbon, Portugal  
*Boston Consulting Group* May 24 - 26, 2023
  - Selected with 10% acceptance rate participated in team-based case solving, developed skills through expert discussions, and networked with peers and consultants.
- **McKinsey Forward Program Fellow** New York, NY (Remote)  
*McKinsey & Company* Dec 2022 - May 2023
  - Selected with 5% acceptance rate, developed leadership, problem-solving, business, and digital skills.
- **Business Education for Engineers** Baku, Azerbaijan  
*BP(British Petroleum) & Baku Higher Oil School* May 06-23 2022
  - A selective program with 10% acceptance rate among all national university students.
- **Presidential Scholarship** Baku, Azerbaijan  
*President of the Republic of Azerbaijan* Sep 2017
  - Recognized by the head of state for ranking in the top %1 of national high school graduates.

## PROJECTS

### Assistive System for Visually Impaired People

- Used *Python* for backend development and *TensorFlow* for implementing deep learning models.
- Used *OpenCV* for real-time computer vision processing, enabling obstacle detection and path navigation.
- Integrated *GPS* modules for location tracking and *Arduino* for sensor data management.
- Used *Google Speech-to-Text API* to convert voice commands to actions.

### Safety Shower Water Refrigeration Package

- Designed a control system using *Siemens TIA Portal* to maintain water temperature in safety shower units.
- Implemented FBD and Ladder Diagram for *PLCs* and designed *Human Machine Interface (HMI)* for UX.

### Design of Tank Level Monitoring System

- Designed and implemented a *SCADA* system for tank level monitoring in *Siemens TIA Portal*.

## SKILLS

### Programming Languages Frameworks and Libraries

Python, C/C++, JavaScript, Matlab/Simulink  
 Flask, TensorFlow, OpenCV, PyTorch, Scikit-Learn, NumPy, Pandas, SciPy,  
 Matplotlib

### Specialized Software

DeltaV DCS, Siemens STEP 7, Siemens TIA Portal,  
 Yokogawa Centum VP DCS, AutoCAD/AutoCAD Electrical, TriStation,  
 NI LabView, Intel Quartus Prime, Arduino, VHDL, Verilog

### Tools

Git, L<sup>A</sup>T<sub>E</sub>X, Bash

### Languages

English, German, Russian, Turkish, Azerbaijani