

Summary

In my professional life, which started with graduation from Middle East Technical University in 2011, I had confident experiences to count myself as a civil engineer, a programmer and a data scientist. As a civil engineer, I had experience in many advanced subjects related to my profession. An example of this is the soil-structure interaction analyzes I made for the Akkuyu Nuclear Power Plant. Using the results of these analyzes, I prepared and co-authored an international conference paper in 2019. I also published an expertise thesis for Turkish Atomic Energy Authority about soil-structure interaction analyses of nuclear power plants in 2018. In addition to that, I conduct civil engineering and quality management inspections at many industrial constructions and manufacturing facilities. I lead to the inspection teams as chief-inspector and prepared my inspection reports including my findings about the processes. I have a nuclear-grade quality management experience and knowledge and I am one of the three authors of current quality management regulation for nuclear power plants in Turkey. Throughout my professional life I have participated many international meetings and workshops on quality management and civil engineering subjects.

As a programmer, I used programming languages Python, C#, R, Excel VBA, Flutter and Dart. Some of my projects using these programming languages are listed below:

- 2011: (Excel VBA) Examining the analysis results of building models with thousands of nodes,
- 2012: (C# & Access) Software and GUI for pricing construction materials,
- 2014: (Python) Post processing program and GUI for SASSI software post-processing. It provides processing and visualization tools of seismic analysis results made for nuclear power plant structures,
- 2015: (C# & SQL) Software and GUI that provides access to the provisions and criteria in the list of basic legislation for licensing to be used in the review and assessment process of the Akkuyu NPP's PSAR,
- 2018: (R & Python) Software and GUI to find the mode shapes of structures using the data of accelerometers mounted on them.
- 2019: (Python & Keras) I became a finalist in the Teknofest 2019 (Nationwide Competition for Artificial Intelligence).The competition was about object detection from aerial drone images using machine learning,
- 2019: (Python & Keras) My final assignment for CMP684 Neural Networks course I took from the Computer Engineering department. Approximately 20,000 earthquake records were used.(for detail and results: https://mybinder.org/v2/gh/aliakgoz/ai_vs30_prediction.git/master?urlpath=%2Fapps%2Ffinal_graphs_slider.ipynb)
- 2020: (Dart & Flutter) Application running on both Android and IOS for radioactive detector device (with scintillator) produced by Turkish Atomic Energy Authority (TAEA),
- 2020: (Python & PyTorch) Master's thesis: the title of my thesis is "Estimation of Shear Wave Velocity of Local Soils from recorded Acceleration Values by using Neural Network Models". I processed about 220.000 earthquake records from Japan Kik-Net seismic network, each with 6 different acceleration records. I trained the artificial neural network model that I created using the PyTorch library, with approximately 1.200.000 acceleration records. And as a result of thesis, I investigated the effects of soil parameters on earthquake wave transmission.

Personal Information

Full Name	Ali AKGOZ
Title	Mr
Gender	Male
Marital Status	Married
Date of Birth	1985-06-09
Place of Birth - City	Ankara
Place of Birth - Country	Turkey
Nationality	Turkey
Primary Number	Cellular Phone
Home Phone Number	
Cellular Number	+905372774587
Work Phone Number	+903122958700
Email Address	ali.akgoz@taek.gov.tr
Alternate Email Address	aliakgoz@gmail.com



Education

Start Date	2005-09
Graduation Date	2011-08
Anticipated Graduation Date	No
Education Level	Bachelor's Degree (University Degree)
Institution	Middle East Technical University
Main course of study	Civil Engineering
Specialization	Structural Engineering
Institution Country	Turkey
Institution City	Ankara

Start Date	2019-09
Graduation Date	
Anticipated Graduation Date	Yes
Education Level	Master's Degree (Advanced Degree)
Institution	Hacettepe University
Main course of study	Civil Engineering
Specialization	
Institution Country	Turkey
Institution City	Ankara

Employment Record

Start Date	2014-04
End Date	
Current Job	Yes
Employer	Turkish Atomic Energy Authority
Job Function	Other Engineering
Type of Business	Energy and Utilities
Work Location (City, Country)	Ankara, Turkey
Total annual net income (after deduction of tax)	15000\$
Exact title	Expert
Achievements	<ul style="list-style-type: none"> * I worked actively in the licensing processes of Akkuyu NPP. I am a member of Civil Engineering Project Group which is responsible from R&A of civil engineering related parts of Preliminary Safety Analysis Report (PSAR). * My thesis on "Soil-Structure Interaction Modelling and Analysis Methods of Nuclear Power Plant Structures" is officially accepted by Turkish Atomic Energy Authority. In the scope of thesis I prepared 3D FEM Model and Stick Model of a typical VVER type reactor building. I used SASSI software to run analyses. As a result of analyses comparison of floor response spectra of some critical points given in different conditions given in the thesis. * I took part in the group which prepared the "Regulation on Construction Inspection of Nuclear Power Plants". This regulation is in use since March 2017. * I am one of three persons who prepared the "Regulation on Management System in Nuclear Installations" which is in use since April 2017. This regulation is based on IAEA GSR Part 2 "Leadership and Management for Safety". * I am officially a Nuclear Safety Inspector according to "The Regulation of Nuclear Safety Inspections and Enforcement". * Currently I am a member of the group which is responsible from revision of "The Regulation of Nuclear Safety Inspections and Enforcement". * I lead several nuclear safety inspections at Akkuyu NPP site as Inspection Team Leader. * I participated several nuclear safety inspections at Akkuyu NPP site as nuclear safety inspector. * I have been participated in several manufacturer approval inspections according to "Regulation Regarding Equipment Procurement Process and Approval of Manufacturers for Nuclear Facilities". * Review and Assessment of Licensing application documents according to Licensing Base Document List. * Participation to improve nuclear safety regulations. * Nuclear Safety Inspections at Akkuyu NPP Site * Participation to regulatory oversight on civil works at Akkuyu NPP Site * Participation to regulatory oversight on implementation of management system requirements of "Regulation on Management System in Nuclear Installations". * Participation to regulatory oversight on Nuclear Construction Inspection Organizations' (NCIO) activities on the Akkuyu NPP site according to "Regulation on Construction Inspection of Nuclear Power Plants".
Description of duties	
Full Time/Part Time	Full Time - 100%

Supervisor's Name	Tahir AKBAŞ
Supervisor's Title	Head of Working Group
Supervisor's Email Address	Tahir.Akbas@taek.gov.tr
Supervisor's Phone	

Start Date	2012-05
End Date	2014-03
Current Job	No
Employer	Koltek Consultancy Joint Stock Company
Job Function	Other Engineering
Type of Business	Construction
Work Location (City, Country)	Ankara, Turkey
Total annual net income (after deduction of tax)	12000 \$
Exact title	
Achievements	Participated in several projects as structural design engineer. Designed industrial buildings in accordance with national and international codes and standards. Participated in structural design control of tens of projects. Some examples: - Gaziantep Stadium (33.000 Capacity) - Eyyubiye State Hospital (17 Blocks) - Sirnak University Buildings (Library, Cultural&Congress Center ...) -Van Center Military Recruiting Main Station Buildings
Description of duties	Structural design of industrial buildings in accordance with national and international codes and standards. Structural design check and control of civil and military buildings.
Reason for leaving	Left to join Turkish Atomic Energy Authority
Full Time/Part Time	Full Time - 100%
Supervisor's Name	Azize ÖZDEMİR
Supervisor's Title	Project Manager
Supervisor's Email Address	azizeozdemir@gmail.com
Supervisor's Phone	

Start Date	2011-11
End Date	2012-04
Current Job	No
Employer	Nesma-Eser-Onur Joint Venture, Saudi Arabia
Job Function	Other Engineering
Type of Business	Construction
Work Location (City, Country)	Jeddah, Saudi Arabia
Total annual net income (after deduction of tax)	30000 \$
Exact title	Civil Engineer
Achievements	Finished Jeddah Stormwater Collection Project

Description of duties

Technical Office Works:

- Changing design to solve the problems encountered in site works,
- Control and inspect works done at site,
- BoQ and final account works

Reason for leaving

Project finished.

Full Time/Part Time

Full Time - 100%

Supervisor's Name

Levent ALTUG

Supervisor's Title

Asst. General Manager

Supervisor's Email Address

Supervisor's Phone

Extended Profile Information

Mother tongue

Turkish

Level of English

Fluent

List of significant publications I have written

1. Master Thesis: Estimation of Shear Wave Velocity of Local Soils from recorded Acceleration Values by using Neural Network Models (continues)
2. Expertise Thesis on "Soil-structure Interaction Modelling and Analysis Reviews at Nuclear Power Plant Structures"
Link: <http://kurumsalarsiv.taek.gov.tr/handle/1/1194>
Description: It is in Turkish due to the regulations. ACS SASSI used for modelling and analyses, two model created one 3-D Finite Element Model and one stick model,
3. INVESTIGATING THE EFFECTS OF THE BASE RIGIDITY OF NUCLEAR POWER PLANT STRUCTURES THROUGH SEISMIC SOIL STRUCTURE INTERACTION ANALYSES, 10 Oct 2019, 5. International Conference On Earthquake Engineering And Seismology
Link: <http://www.5icees.com/wp-content/uploads/2019/10/Hall-F-Seismic-Performance-2-Chairman-Vesile-Hatun-Akansel-Mugla-Sitki-Kocman-Uni-1.zip> (Paper: 8989.pdf)
4. Vs30 Prediction from Earthquake Accelerograms with a Neural Network Model
Link: https://mybinder.org/v2/gh/aliakgoz/ai_vs30_prediction.git/master?urlpath=%2Fapps%2Ffinal_graphs_slider.ipynb

International Meetings, Workshops and Courses

International Atomic Energy Authority (IAEA) – “Regional Workshop on Ageing Management Programmes including Concrete, Buried Piping and Flow-Accelerated Corrosion”, 07-09 September 2014, Uppsala-Sweden

Wakasa wan Energy Research Center (WERC) - Course of Nuclear Plant Safety, 16 November - 11 December 2015, China

European Nuclear Safety Training & Tutoring Institute (ENSTTI) - Education on Oversight of Nuclear Safety and Management Systems, 18-22 April 2016

IAEA - “Technical Meeting on Challenges and Opportunities in the Construction Management of Advanced Nuclear Power Plants”, 28-31 August 2018, Shanghai, China

IAEA - "Workshop on Concepts and Designs for the Disposal of Small Volumes Radioactive Waste, Lisbon, Portugal", 14-18 October 2019, Lisbon Portugal

IAEA - “Training Workshop on the Generic Roadmap for a Deep Geological Disposal Programme”, 25-29 Kasim 2019, Wien, Austria