Academic Curriculum Vitae

Personal Information:

Full Name: ***Hawkar Hashim Ibrahim***

Academic Title: ***Lecturer***
Email: hawkar.ibrahim@su.edu.krd
Mobile: +9647501999899

Education:

2013 MSc. in Civil Engineering: Geotechnical Engineering,
at the University of Nottingham, Nottingham, UK.
Numerical Modelling of Laterally Loaded Monopiles in *Sand* [MSc Dissertation]

2008 BSc. in Civil Engineering,
at the Salahaddin University-Erbil, Erbil, Kurdistan Region, Iraq.
Field Application of Total Station [BSc Final Project]

Employment:

- Civil Engineering Department, College of Engineering, Salahaddin University-Erbil, Erbil, Iraq since 2008.

Languages

✓ **Kurdish (Sorani & Kurmanji):**	Native language with excellent reading, writing and understanding.
✓ **Arabic:**	With good skills in speaking, writing and reading.
✓ **English:**	With good skills in speaking, writing and reading.

Teaching experience:

I am currently a lecturer at the Salahaddin University-Erbil, College of Engineering; Civil Engineering Department.

Year	Module	Stage	Department	University
2024-2025	Engineering Geology	First Stage	Civil Engineering	Salahaddin
	Geotechnical Engineering	Third & Fourth Stages		
	Site investigatio	Postgraduate		
2023-2024	Foundation Engineering	Third & Fourth Stages	Civil Engineering	Salahaddin
	Geotechnical Engineering	Third & Fourth Stages		
	Site investigatio	Postgraduate		
2022-2023	Soil Mechanics [Laboratory]	Second & Third stages	Civil Engineering	Salahaddin
	Foundation Engineering	Third & Fourth Stages	Water Resources Engineering	
2021-2022	Soil Mechanics [Laboratory]	Second & Third stages	Civil Engineering	Salahaddin
	Foundation Engineering	Third & Fourth Stages	Water Resources Engineering	
2020-2021	Soil Mechanics [Laboratory]	Third stage	Civil Engineering	Salahaddin
	Foundation Engineering	Fourth Stage	Water Resources Engineering	
2019-2020	Soil Mechanics [Laboratory]	Third stage	Civil Engineering	Salahaddin
	Foundation Engineering	Fourth Stage	Water Resources Engineering	
2018-2019	Soil Mechanics [Laboratory]	Third stage	Civil Engineering	Salahaddin
	Foundation Engineering	Fourth Stage	Water Resources Engineering	
2017-2018	Soil Mechanics [Laboratory]	Third stage	Civil Engineering	Salahaddin
	Foundation Engineering	Fourth Stage	Civil Engineering	
2016-2017	Soil Mechanics [Laboratory]	Third stage	Civil Engineering	Salahaddin
	Foundation Engineering	Fourth Stage	Water Resources Engineering	
2015-2016	Geological Engineering	Third stage	Civil Engineering	SABIS University– Erbil
	Soil Mechanics	Third stage	Water Resources Engineering	Salahaddin
	Foundation Engineering	Fourth Stage	Water Resources Engineering	Salahaddin
	Academic Debate	First Stage	Civil Engineering	Salahaddin
2014-2015	Foundation Engineering	Fourth Stage	Water Resources Engineering	Salahaddin
	Soil Mechanics [Laboratory]	Diploma student	Civil Engineering	Salahaddin
	Computer	First Stage	Civil Engineering	Salahaddin
2013-2014	Soil Mechanics [Laboratory]	Third stage	Civil Engineering	Salahaddin
	Mathematics I	First Stage	Civil Engineering	Salahaddin

Research and publications

Dataset on the long-term monitoring of foundation vertical deformations on medium-expansive soil

Swelling potential and swelling pressure calculation methods: A comprehensive review

A Rigorous Examination of Twelve Cutting-Edge Machine-Learning Techniques for Predicting Time and Cost in Tunneling Projects

Evaluation of Mechanical Properties of Warm-Mix Asphalt Mixtures Prepared with Sasobit and Zeolite Additives

Comprehensive analysis of multiple machine learning techniques for rock slope failure prediction

Predicting rockbursts in deep tunnels based on ejection velocity and kinetic energy measurements using advanced machine learning

Evaluation of concrete's fracture toughness under an acidic environment condition using advanced machine learning algorithms

Application of several fuzzy-based techniques for estimating tunnel boring machine performance in metamorphic rocks

Estimating the initial fracture energy of concrete using various machine learning techniques

Estimation of tunnel boring machine penetration rate: Application of long-short-term memory and meta-heuristic optimization algorithms

Predicting the splitting tensile strength of manufactured-sand concrete containing stone nano-powder through advanced machine learning techniques

Application of ML algorithms to predict the effective fracture toughness of several types of concret

A gene expression programming-based model to predict water inflow into tunnels

The gene expression programming method for estimating compressive strength of rocks

Evaluating the tensile strength of reinforced concrete using optimized machine learning techniques

Optimal machine learning-based method for gauging compressive strength of nanosilica-reinforced concrete

Several machine learning models to estimate the effect of an acid environment on the effective fracture toughness of normal and reinforced concrete

Estimating the effective fracture toughness of a variety of materials using several machine learning models

Forecasting failure load of Sandstone under different Freezing-Thawing cycles using Gaussian process regression method and grey wolf optimization algorithm

Predicting tunnel water inflow using a machine learning-based solution to improve tunnel construction safety

Prediction of minimum horizontal stress in oil wells using recurrent neural networks

Impact of Marble Powder on the Geotechnical Behavior of Expansive Soil

The gene expression programming method to generate an equation to estimate fracture toughness of reinforced concrete

Machine learning techniques for reinforced concrete's tensile strength assessment under different wetting and drying cycles

LSTM algorithm to determine the state of minimum horizontal stress during well logging operation

Comparison Study on the Effect of Different Additives on the Geotechnical Behavior of Expansive Soil

Development of Machine Learning-based Methods to Reduce the Uncertainty of Tunneling Projects

Tunnel wall convergence prediction using optimized LSTM deep neural network

Forecasting tunnel boring machine penetration rate using LSTM deep neural network optimized by grey wolf optimization algorithm

Prediction of Mixed-mode I and II effective fracture toughness of several types of concrete using the extreme gradient boosting method and metaheuristic optimization algorithms

Developing six hybrid machine learning models based on gaussian process regression and meta-heuristic optimization algorithms for prediction of duration and cost of road …

Forecasting face support pressure during EPB shield tunneling in soft ground formations using support vector regression and meta-heuristic optimization algorithms

Meta-heuristic optimization algorithms for prediction of fly-rock in the blasting operation of open-pit mines

Preliminary experimental investigation on the inundating-induced collapse in collapsible soils improved by encased sand column

Probabilistic prediction of geological status of tunnel route using the Markov method

Numerical and Machine learning modeling of hard rock failure induced by structural planes around deep tunnels

Application of Autoregressive Model in the Construction Management of Tunnels.

Prediction of Mode-I rock fracture toughness using support vector regression with metaheuristic optimization algorithms

Prediction of safety factors for slope stability: comparison of machine learning techniques

Machine Learning Techniques to Predict Rock Strength Parameters

Several models for tunnel boring machine performance prediction based on machine learning

Forecasting tunnel path geology using Gaussian process regression

A Markov-based prediction model of tunnel geology, construction time, and construction costs

Assessment of wall convergence for tunnels using machine learning techniques

Machine Learning Approaches to Enable Resource Forecasting Process of Road Tunnels Construction

Gaussian process regression model to predict factor of safety of slope stability

Prediction of squeezing phenomenon in tunneling projects: Application of gaussian process regression

Prediction of duration and construction cost of road tunnels using Gaussian process regression

Modeling and statistical evaluations of unconfined compressive strength and compression index of the clay soils at various ranges of liquid limit

Predicting construction time and cost of tunnels using Markov chain model considering opinions of experts

Machine learning forecasting models of disc cutters life of tunnel boring machine

Presenting the best prediction model of water inflow into drill and blast tunnels among several machine learning techniques

Using waste glass powder for stabilizing high-plasticity clay in Erbil city-Iraq

Comparison of artificial neural network (ANN) and linear regression modeling with residual errors to predict the unconfined compressive strength and compression index for Erbil …

Influence of rock powder on the geotechnical behaviour of expansive soil

Dynamic reduction of time and cost uncertainties in tunneling projects

Forecasting sidewall displacement of underground caverns using machine learning techniques

Dynamic prediction models of rock quality designation in tunneling projects

Artificial intelligence forecasting models of uniaxial compressive strength

Tunnel geomechanical parameters prediction using Gaussian process regression

Improving the geotechnical properties of high expansive clay using limestone powder

Strength improvement of expansive soil by utilizing waste glass powder

Stabilization of high-plasticity silt using waste brick powder

Application of Autoregressive Model in the Construction

Correlation of Shear Wave Velocity with SPT-N for a Tower-Building Site at Erbil City

Determining Casagrande Liquid Limit Values from Cone Penetration Test Data

Influence of Upstream Blanket on Earth Dam Seepage

Mechanical Properties of Concrete Using Iron Waste as a Partial Replacement of Sand

Mechanical Properties of Concrete Using Iron Waste as a Partial Replacement of Sand

Influence of Upstream Blanket on Earth Dam Seepage

Conferences and courses attended

2024	The 3rd International Conference on Engineering and Innovative Technology (ICEIT2024)
2022	Participation in Symposium architect between academic and professional work
2022	Participation in workshop entitled AILAR (Artificial Intelligence in Life and Research)
2021	Participation in The Fourth Excellent Paper Symposium
2020	Participation 3rd International Conference on Recent Innovation in Engineering (ICRIE)
2019	Participation in Second International Conference on Engineering and Innovative Technology (SU-ICEIT-2019)
2018	Participation in [IEC2018] conference
2017	Attending in [SU-ICEIT] conference
2017	Attending in [6th ICOWOBAS 2017] Basic and Applied Sciences conference
2016	Attending in First International conference on Engineering and Innovation Technology
2014	Attending in 1st International Engineering Conference (IEC2014) On Developments in Civil & Computer Engineering Applications
2013	Attending in ABAQUS Conference, UK.
2013	Participate in the First International Scientific Conference for Kurdistan's Postgraduate Students. As a staff committee in Nottingham University, UK.

Professional memberships

- Kurdistan Engineer Union, Erbil, from 2008 to date.

Professional Social Network Accounts:

- https://scholar.google.com/citations?hl=en&authuser=1&user=CZ1GargAAAAJ
- https://www.researchgate.net/profile/Hawkar-Ibrahim?ev=hdr_xprf
- https://www.linkedin.com/in/hawkar-madany-077a59b6/
- https://orcid.org/0000-0002-2295-2964
- https://www.scopus.com/authid/detail.uri?authorId=57220672557