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GÜNEŞ ERTUNÇ

Date of birth: August 1, 1981
Birthplace: Antalya, Turkey

I have PhD in Mining Engineering from Hacettepe University in 2013 with a thesis entitled "Resource Estimation by Using Covariance Matching Constrained Kriging". During doctorate, I have completed Post Graduate Programme, CFSG (Cycle de Formation Spécialisée en Géostatistique) in École Nationale Supérieure des Mines de Paris, Fontainebleau, France. Recently, on September 2023, I have completed MSc in Geological Engineering at Middle East Technical University (METU) with the thesis entitled "3D U-Spatial Statistics applet: Case study in two distinct gold systems in the Eastern Pontides in NE Türkiye". My scholarly focus on geostatistics, geochemical anomaly mapping, resource modelling, and estimation has led to several publications, research and industrial projects. Selected industrial projects are as follows:

- Ariana Resources, The Salinbas Gold Project, Geochemical anomaly detection and mapping, Artvin Goldfield, Turkey.

- Santral Mining Inc., Geochemical anomaly detection and mapping & resource modeling at Taç Au deposit, Artvin-Yusufeli, Turkey.

- Ozkoyuncu Mining, Metallurgy, Construction Industry and Trade Inc., Open pit design in Mentes Iron Mine, Kayseri, Turkey

- Çiftay Inc., Resource modelling and estimation of Kursunkaya iron deposit, Elazığ, Turkey.

- Meta Nickel-Cobalt Inc., Resource Estimation and pit scheduling of Yunusemre lateritic Ni deposit, Eskisehir, Turkey.

- Koza Gold Operations Company, Cukuralan Underground Gold Mine, Numerical modelling of underground production method, Izmir, Turkey

- General Directorate of Turkish Coal Enterprises: Tekirdag-Malkara coal deposit, Resource estimation of Soma-Eynez and Evciler, Tufanbeyli, and Tuncbilek coalfields.

Research areas:
ORCID ID: 0000-0003-0914-2745

- Geostatistics,

- Tailor-made algorithms and graphical user interfaces (GUI)compiled mostly in MATLAB and MATLAB Compiler

- Application of machine learning, pattern recognition, and classification algorithms to geological domaining and mineral resource estimation and classification.

EDUCATION

Master of Science, Geological Engineering
Graduate School of Natural and Applied Sciences, Middle East Technical University, Ankara
September 2023
THESIS - 3D U-Spatial Statistics applet: Case study in two distinct gold systems in the Eastern Pontides in NE Türkiye

Doctor of Philosophy, Mining Engineering
Graduate School of Science and Engineering, Hacettepe University, Ankara   July 2013
THESIS - Resource Estimation by Using Covariance Matching Constrained Kriging

Cycle de Formation Spécialisée en Géostatistique   2010 - 2011
École Nationale Supérieure des Mines de Paris, Fontainebleau, France
- Successfully completed the Post Master degree offered by the French Higher Education Institution MINES ParisTech.

Master of Science, Mining Engineering
Graduate School of Science and Engineering, Hacettepe University, Ankara   June 2007
THESIS - Investigation of Relationship Between Face Advance and First Caving by Using 3D Numerical Modelling at Longwall Panel

Bachelor of Science, Mining Engineering
Hacettepe University, Faculty of Engineering, Ankara   June 2004

PROFESSIONAL EXPERIENCE

Geostatistics Advisor, Resource estimation consultant   2023 - Present
airth.io

Founder   2023 - Present
Orekalyptus Mining R&D Software Ind.Trade.Co.Ltd.
Incubation, Start-up company based in Hacettepe Teknokent

Assistant Professor   2014 - Present
Department of Mining Engineering, Ankara, Turkey
Courses given:
- MAD434 - Social License to Operate in Mining
- MAD345 - Mining II (Underground Mining)
- MAD213 - Basic Statistics
- MDN722 - Multivariate Geostatistics (Graduate)

Research Assistant   2009 - 2014
Department of Mining Engineering, Ankara, Turkey

COMPUTING SKILLS

Very good command in MATLAB, MATLAB Compiler, R, GEOVIA Surpac, Geovariances Isatis, SGeMS, and FLAC 3D

THESIS SUPERVISED

- Anıl Öncül, "COALSVM: An Auxillary Tool for Coal Seam Modelling Graphical User Interface (GUI)", Master of Science, 2022.

- Nazım Çimen, "Determination of Open Pit Base Boundaries in C and D Sectors at Afşin – Elbistan Coal Basin with Indicator Kriging", Master of Science, 2019.

- Ayça Tufan-Demirel, "Assessment of Social License in Mining Industry Through Examples", Master of Science, 2018.

RESEARCH PROJECTS

- Statistical Tool Graphical User Interface for Coal Seams, 221M822, TUBITAK 1002, Project Manager, 2023

- Implicit Modelling of Hydrothermal Deposits Based on Indicator Kriging and Support Vector Machines with Case Studies: Tac Gold and Kursunkaya Iron Deposits, 218M398, TUBITAK (The Scientific and Technological Research Council of Turkey), Project Manager, 2019 - 2021

- Domain Modeling by Classification and Regression Tree Method in Mineral Resource Estimation, 215M99, TUBITAK, (The Scientific and Technological Research Council of Turkey),Researcher, 2018

- Software Development for Mine Planning and Product Optimization, 108G036, TUBITAK, (The Scientific and Technological Research Council of Turkey), 2012

SELECTED PUBLICATIONS

- Ertunc, G. (2023). GUIDE–Cell De-clustering Application: A Case Study on Groundwater Arsenic Contamination. In: Çiner, A., et al. Recent Research on Environmental Earth Sciences, Geomorphology, Soil Science, Paleoclimate, and Karst. MedGU 2021. Advances in Science, Technology & Innovation. Springer, Cham.

- Ertunc G.,Unit Regional Production Value. In: Daya Sagar B., Cheng Q., McKinley J., Agterberg F. (eds) Encyclopedia of Mathematical Geosciences. Encyclopedia of Earth Sciences Series. Springer, Cham., 2022

- Keshavarzi A., Tuffour H. O. , Brevik E. C. , Ertunç G.; Spatial variability of soil mineral fractions and bulk density in Northern Ireland: Assessing the influence of topography using different interpolation methods and fractal analysis. CATENA, 207, 2021.

- Keshavarzi, A., Kumar, V., Ertunç, G.; Ecological risk assessment and source apportionment of heavy metals contamination: an appraisal based on the Tellus soil survey. Environ Geochem Health 43, 2121–2142, 2021.

- Ertunc G.; Ozcelik Y., "Support Vector Regression of Los Angeles Abrasion on Mechanical Properties in Igneous Rocks", 2nd Conference of the Arabian Journal of Geosciences, Sousse, Tunisia, 2019.

- Ertunc G.; "Modélisation implicite avec Séparateurs à Vaste Marge", Les XIVe Journées de Géostatistique, Fontainebleau, France, 2019.

- Ertunc G.; "Application of Kohonen Self-Organizing Maps (SOM) in Exploratory Data Analysis of Rare Earth Elements Deposit", 26th International Mining Congress and Exhibition of Turkey, Antalya, 2019. (In Turkish)

- Ertunc G.; Tercan A.E., "Domaining with Decision Trees and Geostatistical Simulation", International Association for Mathematical Geosciences (IAMG 2018), Olomouc, Czechia, Abstract Book, 2018.

- G. Ertunç, "İstatistiksel Öğrenme Teorisi ile Metal İçeriğinin Çoklu Sınır Değerlerinde Sınıflandırma Performansının İncelenmesi" *"Investigation of Statistical Learning Theory Performance on Classification of Multiple Threshold Values of Metal Content"*, Bilimsel Madencilik Dergisi, 2017, 56(4), 166-172, 2017. (In Turkish)
- G. Ertunc; F. Atalay, "Implicit 3D Modelling with Support Vector Machines", 7th Balkanmine Congress, Banja Luka, Bosnia & Herzegovina, Proceedings Book 1, pp.189-194, 2017.
- F. Atalay; G. Ertunc, "Estimation of Iron Content of a Deposit Using Deep Neural Networks", 7th Balkanmine Congress, Banja Luka, Bosnia Herzegovina, Proceedings Book 1, pp.195-200, 2017.
- Ertunc G.; Tercan A.E. "Classification Trees as an Aid for Domaining in Mineral Resource Estimation", International Association for Mathematical Geosciences (IAMG 2017), Perth, Australia, Abstract Book, p 119, 2017.

MEMBERSHIPS

- MAusIMM (# 3054338), Australasian Institute of Mining and Metallurgy
- IAMG, International Association for Mathematical Geosciences
  - Lifetime member, Attended and presented in 2015 Freiberg (GER), 2017 Perth (AUS), 2018 Olomouc (CZE), 2022 Nancy (FRA), and 2023 Trondheim (NOR) conferences.
- YERMAM, The Association of Geoscience, Mining and Metallurgy Professionals of Turkey
  - Recognised Professional Organization by UMREK, CRIRSCO
  - Training Committee Member
- MJD, Turkish Association of Mining Geologist
- TMMOB-MMO, Chamber of Mining Engineers of Turkey
  - Executive Committee, Balkanmine 2009 Balkan Mining Congress, 2009
  - Executive Committee, 20th International Mining Congress and Exhibition of Türkiye, 2007

REFERENCES

(in alphabetical order)

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  PO Box 35242, Tucson, AZ, USA 85740

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- Julian ORTIZ
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  Smith Engineering
  Queen's University, Kingston, Ontario, Canada K7L 3N6