

KORAY AKSU

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Istanbul Technical University, Faculty of Civil Engineering, Department of Geomatics Engineering, Maslak, Istanbul, 34469, Turkey

OBJECTIVE

Koray Aksu received a Bachelor's degree in Geomatics Engineering and Civil Engineering (double major) from Istanbul Technical University, Türkiye, and an M.Sc. degree in Geomatics Engineering from the same institution. He is pursuing a Ph.D. in Geomatics Engineering, focusing on Geographic Information Systems, Agent-Based Modeling, and Deep/Reinforcement Learning. His current research interests include spatial data analysis, BIM and Game Engine integration, rule-based spatial simulations, 3D reconstruction, Scan to BIM, and point cloud segmentation.

EXPERIENCE

- Istanbul Technical University**  2021 - Present
Research Assistant Istanbul, Turkey

EDUCATION

- Istanbul Technical University** 2023 - Present
Geomatics Engineering (PhD) Istanbul, Turkey
 - GPA: 3.93/4.00
- Istanbul Technical University** 2020 - 2023
Geomatics Engineering (MSc) Istanbul, Turkey
 - GPA: 3.94/4.00
- Istanbul Technical University** 2017 - 2021
Civil Engineering (BSc) Istanbul, Turkey
 - GPA: 3.26/4.00
- Istanbul Technical University** 2016 - 2020
Geomatics Engineering (BSc) Istanbul, Turkey
 - GPA: 3.41/4.00

PROJECTS

- Positive ROBust PEd Localities - PROPEL** 2023 - 2026
Project Supported by the Scientific and Technological Research Council of Türkiye, 122N696, ENPED
Hande Demirel (Executive)
- Building Information Model Based Fire Evacuation Simulation - YBIMS** 2021 - 2024
Project Supported by the Scientific and Technological Research Council of Türkiye, 121Y099, 1001
Hande Demirel (Executive)
- Production of High-Definition Maps for ITU Ayazağa Campus Digital Road Infrastructure** 2021 - 2023
Project Supported by the Istanbul Technical University Scientific Research Projects Coordination Unit, 43340, GRP
Mustafa Yanalak (Executive)
- Effects of Cooperative Vehicle Dynamics in Traffic Flow Modeling: Simulation and Control** 2021 - 2023
Project Supported by the Scientific and Technological Research Council of Türkiye, 120M576, 1001
Hilmi Berk Çelikoğlu (Executive)

PATENTS AND PUBLICATIONS

C=CONFERENCE, A=ARTICLE, P=PATENT, S=IN SUBMISSION, T=THESIS

- [A.1] Aksu, K., Demirel, H. (2024). **Extracting Structural Elements From 3D Point Clouds in Indoor Environments via Machine Learning Techniques**. *IEEE Access*, Vol. 12, pp. 94461 - 94476. DOI: 10.1109/ACCESS.2024.3423425
- [A.2] Aksu, K., Demirel, H. (2024). **Integration of Building Information Model into a Game Engine Platform for Indoor Accessibility Analyses**. *WSEAS Transactions on Environment and Development*, Vol. 20, pp. 391-396. DOI: 10.37394/232015.2024.20.36
- [C.1] Aksu K., Aşıroğlu, A. A., Terzi A. F., Koçyiğit A., Demirel H. (2024). **Yapı Bilgi Modelinin Görselleştirilmesi: Mekansal Gösterge Paneli**. In 8. Coğrafi Bilgi Sistemleri Kongresi 2024, Ankara, Türkiye.
- [C.2] Aksu K., Koçyiğit A., Terzi A. F., Demirel H. (2024). **Yapı Bilgi Modellemede Semantik Zenginleştirme ve Güncelleştirme için Farklı Ölçme Tekniklerinin Uygulanması**. In IX. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2024), Aksaray, Türkiye.

- [C.3] Koçyiğit A., Terzi A. F., Aksu K., Demirel H. (2024). **Pandemi Öncesi ve Sonrası Trafik Çevresel ve Sosyal Etkilerinin CBS Tabanlı Analizi**. In *IX. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2024)*, Aksaray, Türkiye.
- [C.4] Terzi A. F., Koçyiğit A., Aksu K., Demirel H. (2024). **Atşehir İlçesinin 15 Dakikalık Şehir Kavramı Açısından İncelemesi**. In *IX. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2024)*, Aksaray, Türkiye.
- [C.5] Aksu K., Günaydın E., Duran Z., (2024). **Comparative Analysis of 3D Models Generated by Close Range Photogrammetry and Smartphone-Based LiDAR Sensor**. In *9th Advanced Engineering Days (AED)*, pp. 295-297, Tabriz, Iran.
- [C.6] Aksu K., Özcan T., Karadağ İ., Demirel H. (2023). **Üç Boyutlu Yapı Bilgi Modeli Kullanılarak Yangın Dinamiği ve Yangın Tahliyesinin Simülasyonu**. In *Uluslararası Yangın ve Güvenlik Sempozyumu ve Yangın Güvenliği Sergisi*, İstanbul, Türkiye.
- [C.7] Aksu K., Demirel H., Alkan R.M., Yanalak M. (2023). **Digital Transformation of Campuses: The Role of HD Map**. In *European Transport Conference 2023*, Milan, Italy.
- [C.8] Aksu K., Arslan A.E., Demirel H. (2023). **Makine Öğrenme Yöntemleri ile İç Mekan Nokta Bulutlarının Semantik Segmentasyonu**. In *TUFUAB XII. Teknik Sempozyumu*, Sivas, Türkiye.
- [C.9] Aksu K., Demirel H. (2023). **Kapalı Alan Yangın Tahliye Senaryolarının Dijital Ortamda Oluşturulması**. In *Mimarlık ve Yangın Sempozyumu*, pp. 47-54, İstanbul, Türkiye.
- [T.1] Aksu, K. (2023). **Classification of three-dimensional point cloud via machine learning methods**. Graduate School, İstanbul Technical University, Thesis Advisor: Prof. Dr. Hande Demirel.

SKILLS

- **Programming Languages:** Python, C#, Java
- **Database Systems:** PostgreSQL/PostGIS
- **Data Science & Machine Learning:** Pytorch, Keras/Tensorflow, Docker
- **Cloud Technologies:** High Computing Grid Systems, Kaggle, Google Colab, Google Earth Engine
- **Mathematical & Statistical Tools:** MATLAB
- **Other Tools & Technologies:** QGIS, ArcGIS Pro, CloudCompare, Feature Manipulation Engine (FME), Revit, DynamoBIM, AutoCAD, Blender, Unity3D, Agisoft Metashape

PROFESSIONAL MEMBERSHIPS

- **IEEE Graduate Student Member**, Membership ID: 100018430 2024 - Present
- **Turkish Chamber of Survey and Cadastre Engineers**, Membership ID: 23387 2023 - Present

ADDITIONAL INFORMATION

Languages: Turkish, English

Updated: 08/12/2024