EMIN EMRE OZDILEK

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EDUCATION

Istanbul Technical University *Aug 2019–Jun 2024*
B.Sc. in Civil Engineering GPA: 3.53

Istanbul Technical University *Aug 2021–Jun 2025*
B.Sc. in Mechanical Engineering GPA: 3.26

EXPERIENCE

Fergani Space *Jan 2025–Jul 2025*
Structural Analysis Engineer

Binamod *Aug 2023–Jun 2024*
Engineering Software Developer,

GE Aerospace *Jul 2022–Jun 2023*
Software Developer Intern,

ARTICLES & CONFERENCES

Gayir, C. E., **Ozdilek, E. E.**, Ozdemir, M., Sendur, P., Sendur, G. K., Muhtaroglu, N., Simsek, U. *OpenLattice: An Open-Source Software for Designing Uniform and Functionally Graded Lattice Structures with Homogenization-Based Topology Optimization.* **On Process**

Ozdilek, E. E., Celil, N., Muhtaroglu, N., Gunaydin, K. *A Nonlinear Homogenization Approach to Predict the Effective Properties of Lattice Materials.* **On Process**

Celik, M., **Ozdilek, E. E.**, Gundogdu, E., Demirkan, E., & Artan, R. (2023). *Free Vibration Analysis of Porous Beams Via Numerical and Artificial Neural Network Approach.* 27th International Conference on Composite Structures, ICC'27.

Ozdilek, E. E., Gundogdu, E., Celik, M., & Demirkan, E. (2024). Vibration Analysis FGM Plate: A Hybrid Analytical and Machine Learning Approach. ICAME'24, 224.

Ozdilek, E. E., Ozcakar, E., Muhtaroglu, N., Simsek, U., Gulcan, O., & Sendur, G. K. (2024). A finite element based homogenization code in python: HomPy. Advances in Engineering Software, 194, 103674.

Celik, M., Gundogdu, E., **Ozdilek, E. E.**, Demirkan, E., & Artan, R. (2023). *Artificial Neural Network (ANN) Validation Research: Free Vibration Analysis of Functionally Graded Beam via Higher-Order Shear Deformation Theory and Artificial Neural Network Method.* Applied Sciences, 14(1), 217.

Thesis Design Project *Advisor: Prof. Dr. Mesut Kirca*
Optimizing Thermal Expansion Mitigation in Gas Turbine Blades Through Hierarchical Structural Design.

REFERENCES

- Prof. Dr. Gullu Kiziltas Sendur
  Associate Professor at the Sabanci University, Faculty of Engineering and Natural Sciences, Turkey
  gkiziltas@sabanciuniv.edu
- Dr. Nitel Muhtaroğlu
  Principal Software Engineer at GE Aerospace, Turkey
  Doctor at the Ozyegin University, Computer Science Department
  Nitel.muhtaroglu@ge.com
- Dr. Nilay Çelik Muhtaroğlu
  Doctor at the Istanbul Technical University, Structural Analysis Department, Turkey
  celikni@itu.edu.tr
- Dr. Ugur Simsek
  Senior researcher at University of Nottingham, The Mechanical and Aerospace Systems Research Group, United Kingdom
  ugur.simsek.16339@ozu.edu.tr

PROJECTS

OpenLattice, OpenLattice Organization *Jun 2022–present*
It is an engineering code development and Research & Development project about Lattice Design, Topology Optimization, Nano-Mechanics and Addictive Manufacturing
Website: *github.com/eminemreozdilek/ol_simple_website.github.io*

HomPy, OpenLattice Organization *Sep 2022–Jun 2023*
It is an open-resource 3D Homogenization python code for Strut Lattices
Website: *gitlab.com/eminemreozdilek/HomPy*

FemRe, *Jun 2023–present*
It is a Finite Element Analysis code with user-interface to work on structural mechanics of hierarchical materials and structures.
Website: *github.com/eminemreozdilek/FemRe*

ABILITIES

Engineering Programs
- ANSYS Mechanical
  Structural & Vibration
- AutoCAD
- Civil3D
- FreeCAD
- Fusion 360
- SolidWorks
- LAMMPS

Design Programs
- Adobe Photoshop
- Adobe Illustrator
- Adobe Premiere Pro

Programming & Scripting
- MATLAB
- Python
- C++
- Perl/Bash
- ANSYS APDL

Languages
- Turkish (Native)
- English (C1)