

# MOHAMMED RADY

CONSTRUCTION AND BUILDING ENGINEER



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Smart Village, Giza, Egypt



[Scholar](#)

## Research Interests

- Structural design
- Building materials
- Sustainable buildings
- Optimization
- Climate change
- Building energy simulation

## Career Overview

The discipline of Construction and Building Engineering is not just a job for me; it's a way of thinking, doing, and being that permeates every aspect of my existence. My professional experience is a beautiful fusion of theory and practice. As a result, I look forward to integrating the concepts I've learned in the classroom with those used in the real world. During my educational career, I've worked to enhance my skills in metaheuristic optimization techniques and structural equation modeling to address real-world problems and develop guidelines for sustainable buildings. Specifically, this entails giving "value-for-money" alternatives to public authorities and delivering efficient solutions to serve customers and stakeholders.

## Academic Qualifications

Expected 2025 PhD	Civil Engineering - Dept. of Water and Environmental Engineering Universiti Teknologi Malaysia (UTM) – Johor Bahru, Malaysia Thesis title: "Projections of building energy consumption in Egypt using CMIP6"
2022 MSc	Construction and Building Engineering Arab Academy for Science, Technology and Maritime Transport (AASTMT) - Smart Village, Egypt Thesis title: "Design Optimization of Low-Rise Reinforced Concrete Residential Buildings", GPA: 3.92/4
2016 BSc	Construction and Building Engineering Arab Academy for Science, Technology and Maritime Transport (AASTMT) - Cairo, Egypt Graduation Project: "Design of Reinforced Concrete Structures", GPA: 3.93/4 (Class Topper)
2011 Highschool	3 GCE A Levels 8 IGCSEs International Academic School (IAS) - Abu Dhabi, United Arab Emirates

## Teaching Experience

2017 – Present	<b>Arab Academy for Science, Technology and Maritime Transport (AASTMT) - Smart Village, Egypt</b> <b>Teaching Activities</b> Preparing and delivering undergraduate tutorials, design projects and laboratory classes in the following subject areas: <ul style="list-style-type: none"><li>• Building construction</li><li>• Structural analysis</li><li>• Design of reinforced concrete structures</li><li>• Testing of materials</li><li>• Inspection, maintenance and repair of structures</li><li>• Building information modeling (BIM)</li><li>• Environmental control and energy in buildings</li></ul>
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Industry Experience

2017 – 2019

Consultant Engineer

Academy Company for Information and Communication Technology

I have been involved in the following tasks in several projects:

- Reviewing all design packages (drawings and documents) received from the client.
- Designing bridges.
- Inspection and maintenance of reinforced concrete structures (residential buildings, malls and tanks).
- Soil investigation.
- Writing reports of structural safety.

Publications

[1] Rady M\*, Mahfouz SY, Taher SE-DF. Optimal Design of Reinforced Concrete Materials in Construction. Materials. 2022; 15(7):2625. doi.org/10.3390/ma15072625

[2] Rady M\*, Mahfouz SY. Effects of Concrete Grades and Column Spacings on the Optimal Design of Reinforced Concrete Buildings. Materials. 2022; 15(12):4290. doi.org/10.3390/ma15124290

[3] Aidy A, Rady M\*, Mashhour IM, Mahfouz SY. Structural Design Optimization of Flat Slab Hospital Buildings Using Genetic Algorithms. Buildings. 2022; 12(12):2195. doi.org/10.3390/buildings12122195

[4] Rady M, Kineber AF\*, Hamed MM, Daoud AO. Partial Least Squares Structural Equation Modeling of Constraint Factors Affecting Project Performance in the Egyptian Building Industry. Mathematics. 2023; 11(3):497. doi.org/10.3390/math11030497

[5] Abubakr M\*, Rady M, Badran K, Mahfouz SY. Application of deep learning in damage classification of reinforced concrete bridges. 2023. doi.org/10.1016/j.asej.2023.102297

[6] Salem KM, Rady M\*, Aly H, Elshimy H. Design and Implementation of a Six-Degrees-of-Freedom Underwater Remotely Operated Vehicle. Applied Sciences. 2023; 13(12):6870. doi.org/10.3390/app13126870

[7] Ashraf A, Rady M\*, Mahfouz SY. Price prediction of residential buildings using random forest and artificial neural network. HBRC Journal. 2024; 20(1):23-41. 10.1080/16874048.2023.2296036

[8] Rady M\*, Tawfik AB, Alasow AA. Impact of Unit Prices on the Optimal Costs of Reinforced Concrete Beams: A Comparative Study. Journal of Engineering Research. 2024; 10(4A). https://doi.org/10.1016/j.jer.2024.01.002

Software Skills

Programming

- R
- Python
- Matlab
- Visual Basic

BIM Tools

- Revit
- AutoCAD 2D

Structural Design

- SAP2000
- ETABS
- SAFE

Building Energy Simulation

- EnergyPlus
- DesignBuilder
- Climate Consultant

English Profeciency

IELTS Test Score: 7.0

References

Available upon request