

# KARIM TAREK

## Structural Engineer & programmer

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### PROFILE

Junior Structural Engineer and Python Developer eager to grow and expand expertise in reinforced concrete design, structural analysis, and BIM workflows.

A fast learner who loves automation and creating custom tools to improve efficiency.

Passionate about combining engineering knowledge, programming, and BIM technologies to deliver innovative solutions for modern construction projects.

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### WORK EXPERIENCE

#### Structural BIM Engineer at SEDO International

*November 2025 - Present*

- Performing structural analysis and modelling using ETABS, SAP2000, SAFE
- Develop detailed BIM models for structural components using Revit.
- Collaborate with project teams to ensure the structural design is accurately integrated into the BIM model.
- Prepare and review structural drawings, and documentation.
- Preparing design calculation sheets and technical reports

#### Projects

- Administrative Building in New Cairo ( Ever East )
  - Single Stairs & Double Stairs in the LRT Project
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### Education ( 2019 - 2024 )

Bachelor degree in civil engineering  
graduated with ( very good ) grade  
Helwan University,  
Faculty of Engineering Mataria Branch

#### Graduation Project

Reinforced Concrete Project  
( Excellent grade )

## Technical Skills

### Structural Design & Analysis Tools

- Etabs
- Sap2000
- Safe
- CSI Col
- Excel (advanced use for structural calcs, BOQ)
- Word, PowerPoint

### BIM Tools

- Revit
- PyRevit
- Navisworks
- AutoCad

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## Technical Skills (2)

### Python Developer

- PyQt – GUI development for engineering applications
- NumPy – Numerical calculations
- Pandas – Data handling and processing
- Matplotlib – Structural diagrams (SFD/BMD, deflection, visualization)
- ezdxf – AutoCAD DXF generation for rebar detailing
- SQLite – Lightweight database management for structural data
- BIM Automation: Dynamo, PyRevit (basic)

### Projects

- [Automate Drawing Cross Section using Python](#)
- [Automate Columns Modelling From Cad Link](#)
- Analysis & Design of beams (In Progress)



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## Soft Skills

- Strong problem-solving, critical thinking and attention to detail
- Effective communication and teamwork skills Ability to multitask, organise and prioritise work, and meet project deadlines

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## Languages

- Arabic - Native
- English - Advanced
- German - basic