

KARIM TAREK

Structural Engineer & programmer

01121724597 | karemtarek304@gmail.com | Cairo

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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.

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

- Adminstrative Building in New Cairo (Ever East)
- Single Stairs & Double Stairs in the LRT Project

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

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)



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

Languages

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