Asmaa Ahmed

AEC Software Developer | Full Stack Developer

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Education:

- **Cairo University, Egypt**   September 2016 – August 2022

  Bachelor of Civil Engineering
  Civil Department – Faculty of Engineering
  - **Grade:** Good.
  - **Graduation project:** Irrigation and Hydrology.
    - **Grade:** Excellent (The Third Rank).
    - **Skills:** Civil3D - WaterCAD - WMS - HEC-HMS.

Work experience:

- **AEC Software Developer**   June 2024 - Present

  INSTUDIO – Full time

  - Lead the design, development, and deployment of custom BIM tools across Revit, Navisworks, and AutoCAD using C# and WPF (MVVM) architecture.
  - Developed multiple automation plugins to streamline modeling, documentation, and coordination workflows for various disciplines (Structural, Architectural, MEP).
  - Integrated APIs such as Revit API, Navisworks API, AutoCAD .NET API, enhancing existing tools with advanced model querying, filtering, and element manipulation features.
  - Built Python-based Dynamo scripts to automate repetitive tasks and enable non-programmer teams to customize processes.
  - Follow best practices in software lifecycle, including planning, debugging, unit testing, and documentation.
  - Collaborate closely with engineers and BIM teams to translate real-world challenges into efficient technical solutions.
  - Designed and implemented relational databases using MySQL and Microsoft SQL Server, managed via phpMyAdmin and SSMS.
  - Built data-driven applications using Entity Framework Core, applying Code First approach and managing schema changes with Migrations.
  - Queried and transformed data using LINQ, enabling clean and efficient data access in .NET applications.

- **Technical Coordinator (BIM Development)**   October 2023 - February 2025

  KAITECH - Part time

  - Corrected students' coding tasks, Provided constructive feedback and guidance to students on their coding projects.
  - Conducted assessments and assigned grades for students' work, maintaining accurate records of their progress.
  - Conducted interviews with new applicants to evaluate their suitability for scholarships.

- **Structural BIM Engineer** August 2023 - June 2024

  INSTUDIO – Full time

  Projects Names:

  - Wadi Safar (WSP).
  - NEOM.
  - Four Seasons Resort and Residences (AMALAA).
  - Roya Sedra Compound (Retal).

  Location:

  - KSA

  Duties:

  - Create accurate construction BIM models using Autodesk Revit.
  - Produce organized structural Shop drawing sets for various construction stages and participate in discipline reviews.
  - Review project structural drawings and specifications.
  - Collaborate and coordinate with other disciplines design-changes and model challenges.
  - Developed Revit Families for structural elements and annotations.

Technical Skills:

- **Programming & Development:**

  Languages & Concepts:
  C# (OOP, Data Structures, SOLID Principles, Design Patterns), Python, HTML, CSS and JavaScript.

  Desktop Applications:
  WPF (MVVM) andWindows Forms.

  Web Development:
  ASP.NET Core (MVC, Web API).

  Database & Data Access:
  SQL, LINQ and Entity Framework.

  Databases:
  Microsoft SQL Server and MySQL (phpMyAdmin).

  APIs & Integrations:
  Revit, Navisworks, AutoCAD, CSI, Google Sheets and Google Drive.

- **BIM & Engineering Software:**

  Autodesk Revit:
  Shop Drawings, Modeling, Dynamo and Family Creation.

  Navisworks:
  Clash Detection and 4D Simulation (with Synchro).

  AutoCAD.

  CSI Software:
  SAP2000, ETABS, SAFE and CSI Column.

  Microsoft Tools:
  Excel VBA and Power BI.

Diplomas:

- **Route:** Jun 2025 – Present
  Front-end Web Development Diploma.
- **Upskilling:** February 2025 – July 2025
  Back-end Web Development Diploma – Advanced level.

Internships:

- **KAITECH**: July 2023 – February2024
  Structural BIM Diploma – Partial Scholarship.
- **Information Technology Institute:** March 2023 – July 2023
  BIM Automation Development Diploma – Intensive Code Camp.
- **KAITECH:** February 2023 – July 2023
  BIM Automation Development Diploma – Full Scholarship.

Trainings:

- **Dar Al-Handasah:**
  Central business district – On Site
- **ORASCOM:**
  Zed Towers – Hybrid (OSHA)
- **CMB Egypt:**
  Qesm El Ahram – On Site
- **Egyptian national railways:**
  Ramsis station – On Site
- **The Arab Contractors:**
  Panorama Green Mountain Compound – On Site

Languages:

- **Arabic:** Native.
- **English:** Professional working proficiency.