Hazem Rashad

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Summary

Highly motivated **AEC Software Developer** with a Civil Engineering degree specializing in **Highway and Traffic Engineering** and equipped with advanced training in **AEC Informatics** at **ITI**. Proficient in **BIM, software development, and digital transformation** for the construction industry. Experienced in developing domain specific tools and plugins, Invested in various technologies such as **Web Development**. Eager to contribute as a **Software Engineer** in the AEC space, leveraging technical expertise to drive digital innovation.

Education

Postgraduate 9-Month Diploma. Architectural, Engineering and Construction Informatics **(AEC Informatics)** Information Technology Institute, **ITI** (Oct 2024 – Jun 2025), (Grade: **Excellent**).

Graduation Project: BIM Issue Manager

- Designed an integrated coordination tool to manage and track design issues directly within BIM workflows, minimizing fragmentation and improving cross-team accountability.
- Built a multi-layered system using **Revit API (C#)** for contextual issue creation, **WPF (.NET 8)** for a standalone desktop app with 3D IFC Viewer, and **ASP.NET Core Web API** for centralized synchronization.
- Applied architectural best practices like **MVVM**, **Clean Architecture**, and **SOLID Principles** to ensure modularity, scalability, and data integrity across the issue lifecycle.

Bachelor of Science. Civil Engineering, **Cairo University** (2019 – 2024) GPA: 70.3%

Graduation Project: **Highway, Traffic and Airports** Engineering (Grade: **Excellent**)

- Executed geometric and structural design of highways, enhancing safety and functionality.
- Analyzed and optimized traffic flow, improving road efficiency and reducing congestion.
- Designed and implemented runway layouts, ensuring optimal airport operations and safety.

Projects (Link to Portfolio)

- **ColumnManager** – Revit API, WPF C# – WPF Revit plugin for creating and editing structural columns.
- **EzTickets** – ASP.NET Web API – Ticket booking system with secure payments and RESTful endpoints.
- **ConstructED** – ASP.NET MVC, HTML/CSS – E-learning and plugin store platform for AEC professionals.
- **IFC Web Viewer** – Fragments.js, WebGL – Fast browser-based IFC viewer with interactive model tools.
- **IFC Viewer** – WPF, XBIM Toolkit – Desktop IFC viewer with model navigation and property display.
- **HMA Addin** – Revit API, C# – Revit plugin for creating, editing, and analyzing structural columns.
- **Hazem Portfolio** – HTML, CSS, JavaScript – Personal web portfolio showcasing projects and skills.
- **MyCAD** – WPF, C# – Lightweight CAD drafting app with DXF support and custom snapping tools.
- **Movie Vault** – WinForms, SQLite – Local movie manager with CRUD operations and filtering.

Internships

- **CRC Dorra – Village West** – *Site & BIM Exposure* (Summer 2022 & 2023)
- **CMB Group** – *Construction Materials & Tech Orientation* (2022)
- **Arab Contractors** – *General Site Training* (2021)

Technical Skills

Programming Languages	Markup languages	AEC Development	Technologies
C#	XAML	Revit API	OOP
C++	HTML / CSS	CAD API	ASP.net Core
C	JSON	SAP API	WPF (MVVM)
JavaScript	Bootstrap	Navisworks API	MVC
Python	**Source Control**	BIM Development	Web API
MATLAB	Git	**Database**	Entity Framework Core
Ruby	GitHub	SQL Server	Ajax
Computer Graphics	OpenGL	WebGL	Three.js
Geoinformatics Systems	ArcGIS	QGIS	GIS Development

Engineering Software

- **AutoCAD**: Advanced
- **Revit**: Intermediate
- **Navisworks**: Intermediate
- **Civil 3D**: Advanced

- **PTV Vissim, Synchro Traffic**: Traffic simulation and analysis
- **FAARFIELD, KenPave, MnPave**: Pavement and airport design tools

Personal SKILLS

- Self-motivated.
- Attention to details.
- Critical thinking.
- Communication.

- Team player.
- Curiosity.
- Leadership.
- Presentation.

Volunteering

Creative Writer at CUFE Student Club.
Oct. 2020 – Oct. 2021

Contributed to content creation and editing for the student club's English magazine, enhancing communication and writing skills.

Languages

- Arabic (Native)
- English (Bilingual)
- French (Beginner)