

Mohamed Abdelsalam

BIM Coordinator - AEC Automation & AI

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LinkedIn Profile

BIM Coordinator and Developer with 7+ years in the AEC industry, currently leading Pharaohs Team, a freelance practice delivering BIM coordination, automation, and AI solutions to clients in the UK, USA, and Qatar. I combine hands-on coordination of landmark projects (40 Leadenhall, London) with a systems-builder track record: Revit and AutoCAD API add-ins, Dynamo/Python pipelines, Power BI dashboards integrated with ACC and cloud databases, and AI-powered desktop applications for drawing review and inspection analysis. Holder of an MSc in Construction Project Management (Cairo University) with a thesis on automated code compliance checking using BIM and Business Intelligence. I turn fragmented project information and manual workflows into connected, automated, decision-ready systems.

CORE TECHNICAL SKILLS

- **BIM & Coordination:** Autodesk Revit, Navisworks, Synchro Pro (4D/5D), Autodesk Construction Cloud (CDE), clash detection, federated model management, point cloud / LiDAR modeling
- **Automation & Development:** Revit API & AutoCAD API add-ins (C#), Dynamo (custom nodes, CPython3), Python, WPF/MVVM desktop applications, REST APIs & integrations
- **Data & Business Intelligence:** Microsoft Power BI, SQL Server, Firebase/Firestore, data modeling, KPI dashboards, BIM-to-BI pipelines
- **AI & Emerging Tech:** AI-powered document review, deep-learning computer vision applications, AI-assisted workflows
- **Project Management:** Risk, cost, and schedule management; optimization; strategic planning (MSc CPM)

PROFESSIONAL EXPERIENCE

BIM Coordinator & Developer

March 2024 - Present

Pharaohs Team, Remote, clients in the United Kingdom, United States, and Qatar

Founded and lead a freelance BIM team delivering the coordination, automation, and AI engagements below.

BIM Developer – Coordinator | E.E. Reed East Coast

Jan 2026 – Present

Virginia, United States — Remote

- Develop custom BIM automation and AI-powered solutions spanning Revit API add-ins, Dynamo workflows, and standalone desktop applications.

- Developed a company-wide Revit add-in that assists BIM engineers in modeling conduit encasements, with integrated model change detection to track modifications across project revisions.
- Engineered a Zone of Influence (ZOI) clash detection add-in that automatically identifies conduits intersecting foundation ZOIs and automates their resolution, streamlining structural–electrical coordination.
- Created Dynamo scripts for automated reinforcement detailing for rebar placement, scheduling, and calculations for concrete elements and quantity takeoff tools that extract accurate material quantities from BIM models for cost estimation and procurement.
- Led the company's transformation toward AI integration, delivering two AI-powered desktop solutions: Sheet Reviewer, which reviews PDF drawing sheets against custom user-defined checking profiles, and a deep-learning Conduit Inspection application that analyzes conduit camera footage and calculates inspected conduit lengths.

BIM Developer & R&D | The Look Company (TLC)
Doha, Qatar — Remote

Jul 2025 – Present

- Deliver end-to-end automation for the Project Delivery & Development department: 8+ production systems in the first year across Dynamo/Python scripts, optimizing design workflows from input to detailed output.
- Built a full design-to-estimation pipeline: automated material quantity takeoff and cost estimation generated directly from design models in one streamlined process.
- Automated the manual modeling and design of production items, generating detailed designs directly from input parameters.
- Automated the delivery pipeline for “The Beautiful Dome”: the transformation of Vancouver's Science World landmark into the Official Match Ball of the FIFA World Cup 2026™ from LiDAR-processed data to geometric BIM modeling and full project detailing, then surface unfolding of the geodesic dome into fabrication-ready shop drawings.
- Contributing in proposal of Workflow improvement using Power BI reporting with Autodesk Construction Cloud and data pipelines.

Lead BIM Coordinator – CDE Engineer | MODAEC
United Kingdom — Remote

Nov 2024 – Present

- Lead BIM Coordinator on 40 Leadenhall, the largest office development completed in the City of London in 2024, accountable for BIM coordination of Levels 1, 2, 7, and 11.
- Manage information exchange through the project Common Data Environment (CDE) on Autodesk Construction Cloud (ACC).

- Produce and maintain the federated BIM, integrating multi-discipline design information into a single coordinated model for review and resolution.
- Execute comprehensive clash detection in Navisworks by configuring clash tests, producing structured reports, and translating results into interactive Power BI dashboards with element-level selection and data filtering to drive coordination decisions.
- Lead model health-check processes with Dynamo automation standardizing checks across project workflows, and conduct object data integrity and maintainable-asset data audits through custom scripts evaluated in dedicated Power BI analyses giving stakeholders clear visibility of modeling issues.

BIM Specialist

Feb 2021 – Mars 2024

Housing & Building National Research Center (HBRC), Giza, Egypt

- Development of BIM Solution to Automate Checking process of architecture and structure design compliance to Unified Building Law 119/2008, Egyptian Standards of Parking Garage Design and Egyptian firefighting Code.
- Development of Structural and architecture quantity takeoff Dashboards of projects using Autodesk Revit, Power BI and Dynamo.

Teaching Assistant

Sep 2021 - May 2022

Institute of Aviation Engineering & Technology (IAET), Giza, Egypt

- Collaborate with lead professors to conduct lectures, workshops, and laboratory sessions in Highways & Airports, Transportation Engineering, and Reinforced Concrete Design.
- Provide guidance and support to students in understanding complex engineering concepts.
- Integrated real-world case studies into the Reinforced Concrete Design curriculum, giving students practical insights into the application of theoretical concepts.

Site Supervision Engineer

Jan 2019 - Feb 2021

Pavillion Architects Consultant, New Capital City, Cairo

- Successfully observed and inspected the construction process of 360 villas and 94 buildings in the Stella Park, New Capital project.
- Ensured compliance with design specifications, quality standards, and safety protocols.
- Produced accurate and detailed weekly reports, highlighting the project progress percentage, facilitating transparent communication with stakeholders.
- Generated daily reports addressing site technical problems promptly, contributing to efficient problem resolution.

- Actively participated in meetings, engaging with the project manager, contractors, and the owner to discuss project details.
- Provided valuable insights and updates, contributing to informed decision-making processes.

EDUCATION

Master of Science (M.S.) - Construction Management

Oct 2019 - Jan 2024

Cairo University, Giza, Egypt — GPA 3.5/4.0, Degree of Excellence

- Thesis: Automated Code Compliance Checking using BIM and Business Intelligence: developed automated systems for assessing building-code compliance by integrating BIM and BI to enhance accuracy and efficiency in the construction industry.
- Coursework: risk management, optimization, cost management, strategic planning, and artificial intelligence in construction.

Bachelor of Science (B.S.) - Civil Engineering

Sep 2013 - Aug 2018

IAET, Giza, Egypt — Excellent (Class Honours with a Mark of Distinction)

- Graduation project: design of a high-rise building, large-span hall, and underground tank and graded excellent.

COURSES

Diploma of Education - BIM Automation

Jul 2023 - Nov 2023

Information Technology Institute (ITI), Smart City

The study encompasses a multifaceted exploration into cutting-edge technologies and methodologies in the field of construction and design. Key areas of focus include:

AutoCAD Add-ins Development:

- Utilized Autodesk AutoCAD API to develop custom add-ins, streamlining and automating various design and drafting tasks.

Autodesk Revit Add-ins Development:

- Employed Revit API to create tailored add-ins, facilitating the efficient creation, filtration, and management of elements and their parameters within Autodesk Revit.

Dynamo Script Development:

- Developed dynamic and innovative Dynamo scripts using C#, harnessing the power of computational design to automate complex processes.
- Created new Dynamo nodes in C# to extend functionality and enhance the capabilities of the Dynamo platform.

Integration of Business Intelligence and BIM Technology:

- Explored the intersection of Business Intelligence (BI) and Building Information Modeling (BIM) to enable data analysis and visualization in construction projects.

- Implemented integration solutions to facilitate informed decision-making, enhance project efficiency, and provide a fast and interactive construction process.

Database Design and Development:

- Designed and developed robust databases using SQL Server, ensuring efficient storage, retrieval, and management of project-related data.
- Applied best practices in database architecture to create a foundation for seamless data integration and analysis.

WPF Application Development in MVVM Pattern:

- Developed Windows Presentation Foundation (WPF) applications using C# and XAML, adhering to the Model-View-View Model (MVVM) architectural pattern.
- Created user-friendly applications to enhance the user experience and improve the overall workflow in the construction and design domain.

SKILLS

BIM Coordination, Autodesk Revit, Synchro Pro, Autodesk Navisworks, 4D Planning, 5D Dashboards Development, Autodesk AutoCAD, Microsoft Power BI, Microsoft SQL Server, BIM Automation Development, Dynamo, Databases, C# Coding, BIM Modelling, Artificial Intelligence (AI), Point Cloud Modeling, LiDAR Scanning, Microsoft Office, Data Analysis, Self-motivated, Communication Skills, Team Working, Leadership, Presentation Skills, Software Development, Troubleshooting.

VOLUNTEER

Volunteer

Oct 2022 - Nov 2022

UN Climate Change — COP27

As a volunteer for the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (**COP27**) held in Sharm El Sheikh, my responsibilities involve actively supporting the execution and success of the conference.