

# Muhammad Ali Muhammad Abdelbaqy

## Senior MEP Engineer

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**Mechanical Engineer** with extensive hands-on experience in site work, HVAC, firefighting, and plumbing systems, gained through early exposure during university and professional work in Saudi Arabia. Adept at supervising and executing MEP systems on-site with a strong focus on technical quality and project timelines.

**Passionate about technology and self-learning**, with solid skills in programming, data science, artificial intelligence, and web development. Combines engineering expertise with modern tech trends to deliver smart and efficient solutions.

**Keywords:** Senior MEP Engineer, Mechanical Engineer, HVAC, Firefighting Systems, Plumbing, BIM Engineer, Revit, Navisworks, Project Management, Site Supervision, Procurement, Quantity Surveying, BIM, Building Information Modeling, Saudi Arabia, Construction, Mechanical Systems

## Education

### Bachelor of Mechanical Engineering

Faculty of Engineering, Menoufia University, Egypt

August 2017 - August 2022

## Technical Skills

### Mechanical Engineering (MEP Focus)

HVAC Systems Design & Installation

Firefighting Systems (NFPA Standards)

Plumbing and Drainage Systems

Site Supervision & Execution

AutoCAD & Revit MEP

Quantity Surveying & MTO

Cost Estimation & BOQ

Procurement & Vendor Coordination

Mechanical Equipment Selection

Technical Submittals & Shop Drawings

BIM (Building Information Modeling)

Preventive & Corrective Maintenance

ASHRAE, SMACNA Standards

Microsoft Office Suite

## BIM Engineering

## Work Experience

### Senior MEP Engineer

May 2025 - Present

Jadah Projects Company

- Supervised and executed full MEP works on-site for 70 villas, covering all mechanical and electrical systems
- Managed HVAC system installation and commissioning
- Oversaw complete plumbing and drainage systems (water supply & sanitation)
- Coordinated and commissioned electrical panels and ensured proper operation
- Prepared contracts and coordinated with subcontractors for seamless execution
- Prepared As-Built drawings and ensured accuracy of all documentation
- Managed procurement of materials through ERP system and monitored inventory
- Conducted quantity take-offs and price comparisons to optimize project costs
- Ensured all site works met quality, safety, and schedule requirements

### Mechanical Procurement Engineer

October 2024 - May 2025

Awtad Al-Fahd Contracting Company

- Managed the complete procurement process for mechanical projects
- Planned and budgeted for material, equipment, and labor requirements based on project plans
- Selected suppliers by researching and comparing quality, price, and delivery times
- Negotiated contracts to secure the best terms for price, quality, and delivery schedules
- Issued Purchase Orders for materials and equipment as per project requirements
- Tracked material and equipment delivery and implemented quality control measures
- Coordinated with engineering and design teams to ensure materials met technical specifications
- Implemented risk management strategies and maintained supplier relationships

### Mechanical Site Engineer

September 2022 - October 2024

Awtad Al-Fahd Contracting Company

- Managed installation of water supply pumps for domestic and irrigation purposes
- Oversaw firefighting pumps for emergency response and fire protection systems
- Installed submersible pumps for drainage and water management
- Managed installation of massive water tank systems ensuring technical compliance

Revit (MEP/Architecture/Structure)

Navisworks Manage

Clash Detection & Coordination

BIM Standards & BEP

BIM360/ACC

Dynamo Scripting

Model Validation

## Additional Technical Skills

Python Programming

Data Analysis (Pandas, Matplotlib)

HTML, CSS, JavaScript

Photoshop

Adobe Premiere Pro

Visual Studio Code

Machine Learning Concepts

## Languages

Arabic

English

Native

Full Professional Proficiency

- Coordinated installation of advanced control panels for pump system monitoring
- Implemented ultrasonic measurement systems for precise water level and flow monitoring
- Oversaw integration of advanced technologies within pump room systems
- Conducted testing and commissioning of entire pump systems
- Collaborated with project managers, suppliers, and multidisciplinary teams

## Finishing Engineer (Part-time)

2020 - 2022

*EverSafe Misr*

- Supervised and executed finishing works for residential units including apartments and villas
- Coordinated with subcontractors and workers for plastering, painting, flooring, ceiling, and MEP preparation
- Prepared basic material take-offs and ensured quality according to client specifications
- Managed small-scale sites independently with full responsibility for timeline, quality, and client communication
- Gained hands-on experience in dealing with clients, labor teams, and suppliers

## Soft Skills

Problem Solving & Troubleshooting

Time Management

Communication & Team Collaboration

Site Leadership & Team Supervision

Client Interaction & Presentation

Attention to Detail

Continuous Learning & Adaptability

**Note:** *Passionate about technology, continuous learning, and self-development. References available upon request.*

## Key Projects

### Prince Sultan University (PSU)

**Role:** Site Engineer

**Owner:** Prince Sultan University

**Consultant:** Saudi Architects

**Contractor:** Awtad Al-Fahd

### Al Rajhi Bank, Jeddah

**Role:** Site Engineer

**Owner:** Tudor Real Estate Company

**Consultant:** Alhussan Engineering Consultant

**Contractor:** Awtad Al-Fahd

### El Bilad Bank (El Rawda Branch)

**Role:** Site Engineer

**Owner:** El Bilad Bank

**Consultant:** Al Mahedoon

**Contractor:** Awtad Al-Fahd

### Safa 41 & Safa 43 (70 Villas)

**Role:** Senior MEP Engineer / BIM Modeler

**Owner:** Jadah Projects

**Responsibilities:** Full MEP supervision, BIM modeling, quality control

### Boulevard Main Water Tank

**Role:** Quality Control

**Owner:** SELA

**Consultant:** Dar El-Riyadh

**Contractor:** Awtad Al-Fahd

### Shooting Range (Boulevard)

**Role:** Quality Control

**Owner:** SELA

**Consultant:** Dar El-Riyadh

**Contractor:** Awtad Al-Fahd