

# Abdelrahman Sherif

Frontend Web Developer & 3D Modeling and 3D printing Fabrication expert

<https://a-sherif.cv>

## CONTACT

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6 of October, Giza

## OBJECTIVE

To grow in a role that fosters continuous learning, collaboration, and practical problem-solving. I perform exceptionally well under pressure and adapt quickly, thanks to my wide skill set, which enables me to learn new skills rapidly. This versatility allows me to contribute effectively while supporting the organization's goals and evolving into a stronger professional.

## PROFESSIONAL EXPERIENCE

3D Printing Engineer

Freelance | Giza, Egypt

March 2018 - Present

- Delivered custom 3D printing solutions, including maintain and fabrication of different 3d printers for over 20 projects.
- Specialized in optimizing printer configurations for speed and precision, achieving a 15% increase in manufacturing efficiency.
- Trained clients on printer maintenance and troubleshooting, ensuring consistent performance.

Frontend Web Developer

Souq Mazad, G.S.T Company | Giza, Egypt

September 2024 – April 2025

- Built responsive web applications using Next.js, React, Node.js, and PostgreSQL for various clients and personal projects.
- Designed and implemented secure RESTful APIs, integrated third-party services, and optimized frontend performance.
- Developed custom admin dashboards and e-commerce features, improving user experience and business efficiency.
- Collaborated with designers and stakeholders to deliver fully functional, mobile-first web solutions.

## COURSES AND WORKSHOP GIVEN

### 3D Printer Fabrication and Maintenance Workshop

*Arab Academy for Science, Technology and Maritime Transport | Egypt*

2024

- Delivered seminars and hands-on training on 3D printer design and manufacturing.
- Trained participants on optimization techniques for printer speed and precision.

### 3D Printing Seminar – AAST Smart Village Conference Hall

*Arab Academy for Science, Technology and Maritime Transport (AASTMT), Egypt —*

2023

- Conducted a large-scale seminar on the design, usage, and maintenance of 3D prints.
- Engaged a wide audience of students, providing comprehensive insights into 3D printing workflows and best practices.

## COURSES AND INTERSHIPS TAKEN

### Artificial Intelligence with Python

*Digital Hub | Remote*

2023

- Focused on data analysis, computer vision, and artificial intelligence concepts.
- Developed AI models for image recognition and predictive analytics using Python.
- Applied advanced data processing techniques to solve real-world problems.

### Automatic and CVT Transmission Overhauling

*Ghabbour Corporation | Egypt*

2024

- Gained in-depth knowledge of automatic and continuously variable transmission systems.
- Performed practical disassembly and reassembly tasks to enhance system understanding.

### Engine Overhauling and Internal Combustion Engines Basics

*Ghabbour Corporation | Egypt*

2024

- Acquired comprehensive knowledge of internal combustion engine mechanics and operations.
- Conducted complete overhauls of various engine types, focusing on diagnostics and repairs.
- Explored advanced concepts in fuel efficiency and performance optimization.

## SKILLS

Frontend Web Development

3D Printers Fabrication and maintenance

Video Editing & VFX (Adobe Premiere, DaVinci Resolve)

AI & Computer Vision (OpenCv, TensorFlow)

Internal Combustion Engines

3D Modeling

Solid Works, Inventor, blender, fusion 360

Microsoft Office

NextJs

ReactJs

Firebase

## ACHIEVEMENTS & AWARDS

- **1st and 2nd Place**, ASME EFX Cairo 2024 Vine Robot and Hovercraft Competitions  
*The American University in Cairo*
  - Secured 2nd place in the Vine Robot Competition, earning a prize of **15,000 EGP** for innovative design and teamwork.
  - Achieved 1st place in the Hovercraft Competition, demonstrating exceptional engineering skills and problem-solving capabilities.
  - Represented AASTMT Smart Village Campus under the guidance of Dr. Yasser El-Shaer, Head of Mechatronics Department.
- Finalist, Saudi Championship for Artificial Intelligence (**SCAI**)
  - Recognized among the top contenders in a prestigious AI competition, showcasing advanced machine learning and problem-solving skills.
  - Developed an AI-powered smart event band integrating real-time data processing and user interaction to enhance audience engagement.
  - Demonstrated expertise in computer vision, embedded systems, and full-stack development throughout the project lifecycle.

## Projects

### *Smart Home Automation System*

*Home Assistant, Raspberry Pi, Python, Face Recognition, Voice Control | Apr 2024*

- Developed a fully functional smart home system using Raspberry Pi and Home Assistant
- Integrated a voice-controlled personal assistant to manage AC, fans, and lighting
- Implemented facial recognition for secure door access, triggering a solenoid lock
- Designed a seamless user experience combining automation, security, and convenience

### *High-Speed Budget 3D Printer Build*

*CoreXY, Voron 2.4, Klipper, Wi-Fi Remote Control | Jun 2024*

- Engineered a cost-effective 3D printer based on the Voron 2.4 CoreXY design
- Achieved print speeds up to 400mm/s using Klipper firmware for optimized motion control
- Integrated Wi-Fi connectivity for remote monitoring and control via web interface
- Balanced performance and affordability, making it ideal for rapid prototyping

### *Air-Pressurized Plastic Engine Prototype*

*Custom Design, Compressed Air System | Jul 2024*

- Designed and built a lightweight plastic engine powered by compressed air at 50 PSI
- Achieved rotational speeds of up to 4000 RPM with efficient exhaust flow and minimal air loss
- Engine featured high tolerance precision and smooth operation despite budget constraints
- Fully fabricated and tested at home, demonstrating strong mechanical and prototyping skills

### *Smart Event Experience Band*

*Wearable Tech, IoT, UX Design | Nov 2024*

- Developed a smart wearable band to enhance audience engagement during live events
- Integrated sensors and connectivity features to deliver personalized experiences and real-time feedback
- Focused on improving user interaction, accessibility, and immersion through innovative tech
- Achieved finalist placement at SCAI, highlighting its impact and originality

### *Soft Robotic Aid Delivery System*

*Flexible Robotics, Pneumatics, Embedded Systems | May 2024*

- Engineered a soft robot capable of maneuvering through tight and hazardous spaces, such as collapsed buildings
- Designed to deliver emergency aid in disaster zones using flexible materials and adaptive motion
- Secured 2nd place at the [EFx Cairo 2024 ASME competition](#) for innovation and real-world impact
- Demonstrated advanced problem-solving in humanitarian robotics and field-ready design

## AI-Integrated Smart Storage System

Python, Barcode Scanning, Machine Learning, Report Generation | Oct 2024

- Designed a smart inventory system that uses barcode scanning and AI detection to manage storage
- Automated data logging and retrieval, enabling efficient tracking of stored items
- Integrated report generation for real-time inventory summaries and usage analytics
- Enhanced organizational efficiency through intelligent sorting and data-driven insights

## Gesture-Controlled Robotic Arm

Arduino, OpenCV, Python, Servo Motors | Aug 2024

- Built a robotic arm that responds to hand gestures detected via camera input
- Used OpenCV for real-time gesture recognition and Arduino for motor control
- Enabled precise lifting and placement of components based on hand movements
- Demonstrated intuitive human-machine interaction and practical automation potential

## AI-Based Cryptocurrency Prediction Model

Python, TensorFlow, Machine Learning, Data Analysis | Sep 2024

- Developed an AI model to detect and predict cryptocurrency market patterns
- Achieved 70% accuracy in forecasting short-term trends using historical data
- Implemented continuous learning to adapt to emerging market behaviors and anomalies
- Showcased potential for data-driven financial insights and algorithmic trading strategies

## EDUCATION

Mechatronics Engineering

Arab Academy for Science and Technology Smart Village Campus (AASTSV)

2021 – 2026

## SPOKEN LANGUAGES

Arabic  Native

English  522-C1 CEFR

French  Beginner

## PROGRAMMING LANGUAGES

Python

JavaScript

C, C++

CSS

MATLAB

html

typescript