

# **Mohamed Gindy**

Nationality: Egyptian Email address: mohamed.gindy@unitbv.ro inLinkedIn: www.linkedin.com/in/mohamedgindy-06653a187 Home: Strade Memorandului 34, 500045 Brasov (Romania) ABOUT ME

Mechanical Engineer with expertise in automotive engineering, simulation, and Modeling. Skilled in CAD design, finite element analysis (FEA), and dynamic modelling, with hands-on experience gained through internships and academic projects. Recognized for a strong work ethic, collaboration skills, and a commitment to applying theoretical knowledge in practical settings.

# **EDUCATION AND TRAINING**

### **PhD in Mechanical Engineering**

Universitatea Transilvania din Brașov (UNITBV) [10/2024 - Current]

**City:** Brașov | **Country:** Romania | **Thesis:** Enhancing automotive component durability using optimization techniques.

• Relevant Skills: Finite Element Analysis(FEA), Fatigue Analysis, Topology optimization, CATIA V5

### **MSc in Automotive Engineering**

Universitatea Transilvania din Brașov (UNITBV) [10/2022 - 01/07/2024]

**City:** Brașov | **Country:** Romania | **Field(s) of study:** engineering | **Final grade:** 9.2/10 | **Thesis:** 14 DOF Vehicle Dynamic Model for Driving Simulator

• Erasmus Exchange at FH Aachen University (Oct. 2023 – Mar. 2024)

### **BSc in Mechanical Engineering**

The British University in Egypt (BUE) [09/2016 - 07/2021]

City: Cairo | Country: Egypt | Field(s) of study: Engineering, manufacturing and construction | Final grade: 3.7/4 | Thesis: Solid Waste Management Using Value Stream Mapping Tool (Individual Research).

• Dual Program with London South Bank University

### WORK EXPERIENCE

# 🗒 EDC Egypt – Cairo, Egypt

City: Cairo | Country: Egypt

### **Junior Design Engineer**

[ 01/2021 - 11/2022 ]

- Assisted in the development of a lightweight chassis for an electric golf car prototype as part of a new project under the company's portfolio.
- Assisted in conducting Finite Element Analysis (FEA) to improve crashworthiness and durability, achieving a 15% weight reduction while maintaining structural integrity.
- Assisted in achieving a low center of gravity by integrating the battery pack into the chassis floor, enhancing stability and range.
- Maintained design documentation, including CAD models, simulation reports, and technical specifications, ensuring version control and accessibility for the team.

# III The British University in Egypt (BUE) – Cairo, Egypt

City: Cairo | Country: Egypt

# **Teaching Assistant**

[ 09/2021 - 01/2022 ]

- Provided one-on-one tutoring and feedback on mechanical engineering assignments.
- Managed eLearning platforms for course materials and assignment distribution.
- Assisted in evaluating and grading student performance and grading under professor supervision.
- Delivered tutorials and lab sessions in Engineering Drawing, Thermodynamics, and Machine Design.

### **TRAINING AND INTERNSHIPS**

### [ 07/2019 - 11/2020 ]

### University Racing Team (BUE Racing Team)

### Head of Mechanical Team

- Coordinated team efforts in designing, manufacturing, and testing vehicle components.
- Collaborated with other sub-teams(e.g., chassis, aerodynamics) to ensure mechanical systems integrated seamlessly.
- Managed the submission of design reports and technical documentation.

### Head of the brake system

- Designed and simulated the braking system components using SolidWorks and ANSYS.
- Managed the procurement and assembly of components required for the brake system.
- Assisted in the preparation of the Glass-Fiber Chassis.

### [06/2020-09/2020]

# Automotive Maintenance Center, Cairo, Egypt

### Maintenance Intern

- Performed predictive maintenance to prevent operational failures.
- Contributed to the process of engine overhauls, learning technical details and maintenance processes.
- Diagnosed various vehicle components, including drivetrain and suspension.

# **ACADEMIC PROJECTS**

### **Master's Degree Projects**

### Master Thesis - Vehicle Dynamic Models for Driving Simulators (Jun. 2024)

- Developed 14 degree of freedom vehicle dynamic model for driving simulators, using subsystem-specific mathematical equations in Simulink.
- Validated the model through test scenarios, including constant velocity, sudden braking, constant radius, and double maneuver tests.

### Dynamic Modeling of a Wiper Windshield Mechanism on ADAMS

• Developed a multi-body dynamic model of a wiper windshield mechanism to analyze the kinematics and dynamics of the wiper linkage system

### Modeling of Passive, Active, and Active Hydraulic Suspension of a Vehicle on Amesim

• Simulated various suspension types to analyze ride comfort, stability, and damping characteristics under different driving conditions.

### Modeling of Vehicle Longitudinal Dynamics on Simulink

• Analyzed traction force, traction power, gear stepping, and force distribution across gears using MATLAB/ Simulink, optimizing vehicle performance under different loads and driving conditions.

### **Bachelor's Degree Projects**

### Bachelor Thesis – Solid Waste Management Using Value Stream Mapping (Jul. 2021)

- Developed methodology for sustainable Value Stream Mapping(VSM) to improve economic and environmental performance in manufacturing.
- Validated the methodology with a case study in an automotive parts factory, achieving a 10.9% reduction in cycle time and a 91.76% improvement in material recovery.

### Graduation Project - Small Hybrid Solar-Wind Power System for Street Lighting

- Collaboratively designed, selected, and installed a hybrid solar-wind energy system for street lighting, focusing on sustainability and energy efficiency.
- Contributed to the design and manufacturing of a spring-based mechanism for the street lighting column to enable easier handling and maintenance.

### **Optimization of Flanges for Diffuser Augmented Wind Turbines**

• Used ANSYS fluid simulation to enhance airflow and optimize the aerodynamic efficiency of a wind lens with an airfoil cross-section (NACA9415)

### **CERTIFICATIONS**

[09/2020] Autodesk CAD/CAM/CAE for Mechanical Engineering

[07/2020] **CSWA: Certified SOLIDWORKS Associate** 

[11/2015] **Cisco Networking Academy® IT Essentials** 

# **TECHNICAL SKILLS**

CAD Software: SolidWorks, Fusion 360, CATIA, PTC Creo Simulation Tools: ANSYS, ADAMS, MATLAB, Simulink Programming Languages: ROBOTC, C, Arduino Productivity Software: Microsoft Office, Minitab **Technical Communication: Report writing and presentations** 

# LANGUAGE SKILLS

Mother tongue(s): Arabic

Other language(s):

### English

LISTENING C1 READING C1 WRITING C1

#### German

LISTENING A2 READING A2 WRITING A1 SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1 SPOKEN PRODUCTION A1 SPOKEN INTERACTION A2

### Romanian

LISTENING A1 READING A1 WRITING A1 SPOKEN PRODUCTION A1 SPOKEN INTERACTION A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user