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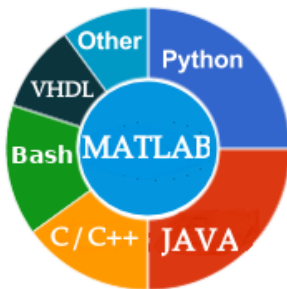
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IbrahimEssam
Mechatronics Engineer

A fresh graduate Mechatronics engineer searching for a challenging long-term internship in the Industry where I can apply my knowledge and gain practical experience.

Education

02/17 - 08/17	**Bachelor Thesis Project**	Daimler AG (Mercedes-Benz R&D)

Title:"Front- and Backened Development of a Test Robot for Touch Devices"
Grade: **B+**

2013 - 2018	**Bachelor Degree in Mechatronics Engineering**	The German University in Cairo

GPA 1.37 Equivalent To **Excellent with Honours**

2010 - 2013	**Egyptian Thanwya Amma - High School**	Al-Minofya, Egypt

Top ranked student with 99.7 % score.

Experience

02/17 - 08/17	**Daimler AG (Mercedes-Benz RD/UKC)**	Sindelfingen, Germany

3 Months Internship followed by 3 Months bachelor thesis. I was responsible of the following tasks.
- Hardware (Robot Construction, Kinematics and Touch Devices)
- Software (CANoe, CAN-bus, Databases and The Test System)
- Making Tests on The Touch Devices with the Robot to analyze the state and develop improvements.
- Implementing new Algorithms and Data structures for the Robot in MATLAB.
- Programming a Graphical User Interface for the System
- Optimizing the test system to fulfill the requirements of Daimler AG.

03/16 - 02/17	**GUC Innovators - Shell Eco Marathon Competition**	Cairo, Egypt

Design and Manufacturing of Car's Steering and Chassis

06/16 - 07/16	**EgyptAir Summer Training**	Cairo Airport, Egypt

EgyptAir Maintenance & Engineering training programs.

07/16 - 08/16	**GlaxoSmithKline Summer Internship**	El-Salam City, Egypt

Summer Internship in GSK at the Production Department.

10/14 - 02/15	**Junior Teaching Assistant**	The German University in Cairo

Teaching CS01 Students Programming Concepts and Assisting them during the Labs

Honors & Awards

09/2013	**Academic Achievement Full Scholarship**	The German University in Cairo

07/2013	**Top Ranked Student With 99.7 % Score**	The Ministry of Education

Extracurricular activities

- Y.E.S (Youth Establishing Skills) Team Member at Bdaya.

Programming

Programs
MATLAB ★★★★★
20Sim ★★★☆☆
LabView ★★★☆☆
Solidworks ★★☆☆☆
CANoe ★☆☆☆☆

Personal Skills

Link

Languages
Arabic ★★★★★
English ★★★★☆
German ★★★☆☆

OS Preference
Ubuntu/Linux ★★★★★
Windows ★★★★☆
MacOS ★☆☆☆☆

Frameworks

PyTorch

TensorFlow

K

ROS

OpenCV Library

MCUs
Atmel AVR ★★★★☆
PIC16F ★★★☆☆

Controllers
PID ★★★★★
LQR/LQG ★★★★★
MPC ★★★★★
Nonlinear ★★★★☆
Adaptive ★★★☆☆
Robust ★★★☆☆

Online Courses & Certificates

07/2018	**Deep Learning, a 5-course specialization**	deeplearning.ai
03/2018	**Electric and Conventional Vehicles**	Chalmers University of Technology
03/2018	**Agile Software Development**	University of Minnesota
01/2018	**FPGA Design for Embedded Systems**	CU Boulder
11/2017	**Embedded Systems Software and Devel. Environments**	CU Boulder
08/2017	**Control of Mobile Robots on Coursera**	Georgia Institute of Technology

Projects

2018 — Cars Detection using YOLOV2 Algorithm
YOLO V2 Trained on COCO Dataset and Darkent Weights for cars detection
https://www.youtube.com/watch?v=NPndZq2cXKE

2018 — Images Recognition and Translation (DeepLearning)
Qt5 Python Application to Load image from a URL, Recognises the object and Translate it into German. Using ResNet50 trained on imagenet .
https://github.com/HemaZ/imgRecgTrans

2018 — Autonomous Mobile Robot (Turtle Bot) — The German University in Cairo
Autonomus Mobile Robot, which navigates and creates a map of the environment. using Odometry sensors and communicating via ROS(Robotics Operating System) network to simulate the Tasks.
https://www.youtube.com/watch?v=ThAjbMSuvAo

2018 — Optimal Control of Wind Turbine — The German University in Cairo
Designing and Simulating an Optimal LQG Control For Wind turbines using Kalman Filter .

2018 — 2D Plotter Robot Arm — The German University in Cairo
2-DOF SCARA plotter Robot Arm with Computed Torque Controller. The Design was made on Solidworks then manufactured and assembled.We Used Nonlinear Controller instead of the regular PD controller. .

2018 — Cars Plates Detection (Image Processing) — The German University in Cairo
Applying some of The Image Processing Algorithms on Matlab to Detect Cars Plates.
https://www.youtube.com/watch?v=PQmAcP1iBfw .

2016 — Self-Balancing Two Wheeled Robot — The German University in Cairo
Segway Or Inverted Pendulum Control using PID controller and Kalman Filter for The IMU Readings.
https://www.youtube.com/watch?v=lp5exim_Jro .

2016 — Windows Cleaning Robot — The German University in Cairo
Pneumatic Actuated and PLC Controlled Robot To Clean Buildings Windows.

2016 — Yu-Gi-Oh Video Game Using Java — The German University in Cairo
CS4 Final Project. The Game was choosed as one of the top 14 project this year.
https://www.youtube.com/watch?v=wY9EOFwh1F0m_Jro .