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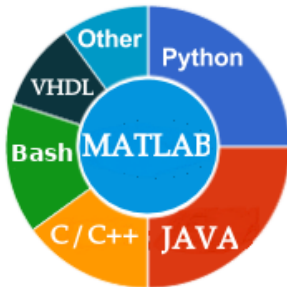
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## Programming



## Programs

MATLAB ★★★★★  
20Sim ★★★★★  
LabView ★★★★★  
Solidworks ★★★★★  
CANoe ★★★★★

## Personal Skills



Link ■

# 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.

## Online Courses & Certificates

### Languages

Arabic ★★★★★  
English ★★★★★  
German ★★★★★

07/2018

**Machine Learning with TF on GCP Specialization**

Google Cloud

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

### Frameworks

 PyTorch









### MCUs

Atmel AVR ★★★★★  
PIC16F ★★★★★

### Controllers

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

## 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](https://www.youtube.com/watch?v=lp5exim_Jro) .

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](https://www.youtube.com/watch?v=wY9EOFwh1F0m_Jro) .