Mina SORIAL

R&D Engineer (Robotics, Computer Vision, Machine Learning)
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EDUCATION

ÉCOLE CENTRAL DE NANTES
M.Sc.Eng in Advanced Robotics
2014- 2016 | Nantes, France

ALEXANDRIA UNIVERSITY
BSc in Electronics and Telecommunication
2009- 2014 | Alexandria, Egypt

DIPLOMAS

ITI EGYPT
Diploma in Software Testing
2017 | Alexandria, Egypt

COURSEWORK

GRADUATE
- C++ programming techniques
- Ros programming
- Computer vision
- Artificial intelligence
- Software architectures for robotics
- Intelligent vehicles
- Robotics control and modeling

ONLINE
- Machine learning (Coursera/Stanford)
- Advanced kalman flirting and sensor fusion (udemy)
- Deep Learning Specialization (Coursera)

OTHER ACTIVITIES

CONFERENCES
OCEANS 2019 MTS/IEEE (Speaker)
Seattle, WA, USA

SUMMER SCHOOLS
(MLCC 2019) Machine Learning Crash Course (MIT - IIT - UNIGE)
Genova, Italy

WORKSHOPS
(BTS 2018) Breaking the Surface
Biograd na Moru, Croatia

PERSONAL SKILLS
- Problem solving
- Teamwork
- Self-motivation
- Curiosity
- Willingness to learn

EXPERIENCE

DIBRIS, UNIVERSITÀ DEGLI STUDI DI GENOVA
PhD Candidate Bio-Engineering and Robotics
October 2017 - May 2022 | Genova, ITALY
Project : Obstacle Detection System for Unmanned Surface Vehicle.
Supervisors : Profs. Enrico SIMETTI, Francesca ODONE, Giuseppe CASALINO.
- Implementation of obstacle detection system for unmanned surface vehicle.
- Explore different types of detection sensors, Camera, LIDAR,and Radar.
- Propose an efficient object detection and tracking procedure to track objects across frames, exploiting YOLO object detection.
- 3D point cloud registration, segmentation and clustering.
- Implement Sensor fusion between camera, 3D LIDAR, and USV odometry information to locate obstacles in the world reference frame estimating their location heading and velocity.

Status: Withdrawn due to some health issues

LS2N, ÉCOLE CENTRAL DE NANTES
Research Engineer Intern (Master Thesis)
Jan 2016 – July 2016 | Nantes, France
Project: Real-time Platooning in Unknown Environment
Supervisors: Profs. Philippe MARTINET, Olivier KERMORGANT
- The implementation of platooning control system in which the vehicles automatically follow a manually driven leader car in Urban Environment. Under (Ubuntu, C++, Ros) environment.

BRIGHTSKIES | Embedded Software Engineer Intern
Summer 2013 | Alexandria, Egypt
- Design a car locking system using embedded C and a specially designed Kit.

SKILLS

SOFTWARE ENGINEERING
- Programming languages and tools

C++	Python	OpenCV	Java (basic)	C (basic)	PCL
ROS	Tensorflow	Keras	Matlab	LaTeX	

- Agile software development
- Software Testing (Certified ISTQB Foundation Level)
- SDLC, STLC

ROBOTICS
- Computer vision (Image Processing, Features detection and tracking, Visual geometry, Camera calibration, Pose Estimation)
- Artificial Intelligence (NN, CNN, RNN, LSTM, Hyperparameter Tuning, Regularization, Optimization)
- Localization, Bayesian Estimation, Sensor fusion (KF, EKF, UKF)
- Robotics modeling and control

PUBLICATIONS

[1] M. Sorial, I. Mouawad, E. Simetti, F. Odone, and G. Casalino. Towards a real time obstacle detection system for unmanned surface vehicles. In *OCEANS 2019 MTS/IEEE SEATTLE*, pages 1–8, 2019.