

# Wadi Ali

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A highly-enthusiastic published roboticist in the look out for challenges where he can utilize his diverse skill set in Mechatronics & Mechanical Engineering and tackle projects that advance his knowledge and benefit the industry.

## EDUCATION

### AMERICAN UNIVERSITY OF SHARJAH

#### M.SC. IN MECHANICAL ENGINEERING

Dec 2018 | Sharjah, UAE  
CGPA: 3.78/4.0

#### B.SC. IN MECHANICAL ENGINEERING

Dec 2016 | Sharjah, UAE  
CGPA: 3.58/4.0  
*Dean's List (7/8 Semesters)*

## SKILLS

### TECHNICAL SKILLS

MATLAB • Simulink • LabVIEW  
COMSOL • ANSYS • ADAMS  
AutoCAD • Inventor

### COMPUTER SKILLS

LaTeX • Ubuntu/Linux • Python  
C • The Robot Operating System (ROS) • XML

## SAMPLE PROJECTS

### UNDERWATER VEHICLES

- Design, modeling, control, localization, trajectory planning & Hardware-Software integration (3 VEHICLES)

### INSTRUMENTATION, CONTROL & ROBOTICS

- Diaphragm molding process control using LabVIEW
- Control of a quadcopter & a 2-wheeled mobile robot
- Trajectory planning for a 5-DoF robotic manipulator arm

### FINITE ELEMENT ANALYSIS

- Study of Fluid-Structure Interaction & hydro-dynamic drag of underwater vehicles
- Design optimization of the geometry of a hollow shaft

## EXPERIENCE

### AMERICAN UNIVERSITY OF SHARJAH | TEACHING ASSISTANT

Jan 2016 – Present | Sharjah, UAE

- Instructing & grading a multitude undergraduate+graduate courses, recitations & laboratories.
- Preparing student handouts+tutorials and teaching material.
- Management of the student database online system.

### KHATIB & ALAMI | TRAINEE INSPECTION ENGINEER | FAIRMONT HOTEL PROJECT (BREAKWATER OF ABU DHABI)

Sep – Dec 2015 | Abu Dhabi, UAE

- Carried **inspection works** on HVAC chilled water system, water supply/drainage, and firefighting installations.
- Processed contractor submittals, inspection reports, and information requests.

### AL BAYAN ENGINEERING CONSULTANTS | ENGINEERING INTERN

Aug – Sep 2015 | Abu Dhabi, UAE

- Introduced to the process through which construction works happen.
- Gained **field experience** with HVAC system installation and design.

## RESEARCH & PUBLICATIONS

### AMERICAN UNIVERSITY OF SHARJAH | RESEARCH ASSISTANT

June – Aug 2015 + Jan 2016 – Present | Sharjah, UAE

- I took part in multiple **research** ventures with faculty from AUS and abroad.
- I **led** the research effort and **performed** the required experimentation in the fields of Nonlinear Dynamics, Friction Identification, Modeling, Estimation Theory, & Optimization.

Published	<b>A. Wadi</b> , J.-H. Lee, & L. Romdhane, "Dynamic Analysis of the Tilted Furuta Pendulum," MATEC Web Conf., vol. 104, p. 02011, 2017. <b>A. Wadi</b> , M. Abdel-Hafez, & G. Hussein, "Identification of the Uncertainty Structure to Estimate the Acoustic Release of Chemotherapeutics from Polymeric Micelles," IEEE Trans Nanobioscience.
In Progress	<b>A. Wadi</b> , J. H. Lee, & L. Romdhane, "Frictional Parameter Estimation for the Tilted Furuta Pendulum." <b>A. Wadi</b> , M. Abdel-Hafez, G. Hussein, "Modeling of a Liposome Chemotherapeutic Drug Delivery system." <b>A. Wadi</b> , J. H. Lee, & S. Mukhopadhyay, "A Noise-Robust Adaptive Trajectory Tracking Controller for Underactuated Underwater Vehicles."

## EXTRACURRICULAR ACTIVITIES

### GSA BOARD MEMBER

- Representing the **graduate student body** on a college-level
- Organizing **workshops & events** for the graduate student body
  - LaTeX workshops
  - MATLAB/Simulink tutorials
  - New students orientation

### GRADUATE STUDENT

- Helping with the supervision of undergraduate **capstone design projects**
- Helping with the organization the 10<sup>th</sup> **ISMA conference** held in AUS (ISMA '15)
- Demonstrating personal exemplary projects to aid undergraduate students

### VOLUNTEER

- Part of an effort to conserve the wildlife and preserve the environment of the Lulu Island off the coast of Abu Dhabi