ALI WADI
Teaching/Research Assitant
American University of Sharjah

Mechanical Engineering
Sharjah/Abu Dhabi
UAE
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www.ali94wadi.github.io

- I am a highly-enthusiastic published roboticist with a knack for technology, research, and everything robotics! I am in the look out for challenges where I can utilize my diverse skill set in Mechatronics & Mechanical Engineering and tackle relevant projects

- Reseach ventures

Research interests: Modeling, Control, Nonlinear Dynamics, Estimation Theory, &Chemotheraputic Drug Delivery Systems.

EDUCATION

Msc
2015-2017
Mechanical Engineering, American University of Sharjah, UAE
Thesis: Modeling, Control, Navigation, & Experimental Verification for an Underactuated Autonomous Underwater Vehicle

BSc
2011-2015
Mechanical Engineering, American University of Sharjah, UAE
First class, with honours.

EXPERIENCE

Employment

American University of Sharjah
Jan 2016 – Present
Sharjah, UAE
Teaching/Research Assistant.
–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
Sep – Dec 2015
Abu Dhabi, UAE
Trainee Inspection Engineer.
–Was resposible for daily **inspection works** involving HVAC chilled water system, water supply/drainage, and firefighting installations.
–Processed contractor submittals, inspection reports, and information requests.

Al Bayan Engineering Consultants
Aug – Sep 2015
Abu Dhabi, UAE
Engineering Intern.
–Introduced to the process through which construction works happen.
–Gained **field experience** with HVAC system installation and design.

Teaching

EES 680
Spring 2017, 2018
Earth & Environmental Data Analysis
Course leader – University of Northern Arizona

EES 529
Fall 2014–2017
Applied Remote Sensing
Guest lecturer – University of Northern Arizona

Extracurricular

Graduate Student Association Board Member
2016–2017
- 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
2015–2017
- Helping with the supervision of undergraduate **capstone design projects**
- Helping with the organization the 10th **ISMA conference** held in AUS (ISMA '15)
- Demonstrating personal exemplery projects to aid undergraduate students

AWARDS & HONORS

ASCE-EWRI Best Technical Note Award 2017
February 2017
For Buscombe et al. (2016) *Automated riverbed sediment classification using low-cost sidescan sonar*, Journal of Hydraulic Engineering. Awarded by the Environmental & Water Resources Institute, American Society of Civil Engineers.

USGS "What's the Big Idea?""
March 2016
Research featured in the video What's the Big Idea? —Using Sound to Remotely Sense the Riverbed on the YouTube channel of the U.S. Geological Survey

COMPUTING

I am an active developer and maintainer of several scientific computing packages. See my github profile (http://github.com/ali94wadi) for details.

Skills

- Good in the Python Language; expert in the MATLAB language, experience writing C, XML.
- Experience with a variety of tools and languages, including bash, LaTeX, HTML, Git, Linux, virtual machines, & the Robos Operating System.
- Experience with Hydrodynamic & Finite Element Analysis modelling software, including the ANSYS; (COMSOL).
- Experience with 3D modeling software, including AutoCAD, Inventor.
- Experience with Multibody Dynamics modeling software, including Gazebo and V-REP.

Major Software Projects

AUV-ROS-Package
2017–Present
A stack of packages to provide funcitonality for a RaspberryPi-powered Autonomous Underwater Vehicle. Source code to be published in Matlab and Python post thesis publishing.

V-REP/Gazebo-AUV
2017–
A MATLAB-integrated ROS package to provide a realistic hydrodynamic environment simulation for the testing purposes of AUV-centered algorithms.

PUBLICATIONS

2017

[1] A. Wadi *et al. Identification of the Uncertainty Structure to Estimate the Acoustic Release of Chemotherapeutics from Polymeric Micelles.* IEEE Transactions on NanoBioscience, DOI: 10.1109/TNB.2017.2736021

[2] A. Wadi *et al. Dynamic Analysis of the Tilted Furuta Pendulum.* MATEC Web of Conferences, Denmark, 14 April 2017 (paper no. 200). DOI: https://doi.org/10.1051/matecconf/201710402011

Forthcoming

[3] A. Wadi *et al. Bias-Robust Estimation of the Acoustic Release of Chemotherapeutics from Liposomes.* IEEE Transactions on NanoBioscience, In preperation October 2017

[4] A. Wadi *et al. A Novel Disturbance-Robust Adaptive Trajectory Tracking controller for a Class of Underactuated Underwater Vehicles.* Simulation Modelling Practice and Theory, In preperation November 2017

[5] A. Wadi *et al. Modeling and Parameter Identification for an Underactuated Underwater Vehicle.* Inernational Symposium for Mechatronics and its Applications, In preperation December 2017

updated October 2017