Abdallah Fawzy Abd El-Fattah Hassan El-Hamalawy

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Education:

M.Sc. Electrical Power Engineering, Cairo University 2016-2019
Courses: Nonlinear Control Systems, Industrial Digital Control, Transient Response of Electrical Machines, and Technical Writing
Cumulative GPA: 3.8
Thesis Title: "Design and Experimental Validation of Subspace Predictive Control"

Study by Partitioning Electrical Power Engineering, 2016-2017
Cairo University
Courses: Linear Control Systems, Intelligent Control, and Computer control
Cumulative GPA: 4.0

B.Sc. Electrical Power Engineering, Cairo University 2011-2016
Ranked first in class of 180 graduates with overall grade: Distinction with honors (91.73 %).
Graduation Project: Boiler drum level control in CCPP using DCS (ABB AC700F)
Graduation Project grade: Distinction

Research Experience:

M.Sc. Thesis, Cairo University 2017-2019
An online nonparametric subspace identification has been combined with MPC to introduce an adaptive version of subspace predictive control. The algorithm has been developed and applied to an experimental level process in which tank's water level is regulated through a pneumatic industrial inlet valve while a time varying disturbance is applied to the outlet flow of the water tank.

Research Assistant, Mechanical Power Engineering Department, 2016-2017
Cairo University
Participated in a research project to design and implement Solar Water Desalination station. I was responsible for Electrical and Automation Engineering including electrical equipment selection, developing solar tracking code and configuring the required displays.

Graduation Project, Cairo University 2015-2016
Boiler drum level dynamics has been modeled in ABB Micro DCS (AC700F) and controlled using cascaded loop with feedforward (Three Element) controller. The three element controller is located on another similar unit (AC700F) to complete HIL setup. Moreover, MATLAB identification toolbox is used to identify an experimental level process. The obtained model has been simulated and equipped with a PID controller on SIMULINK. Tuned controller is then applied using ABB AC700F and the whole system was supervised by Freelance display component "DigiVis".

Teaching Experience:

Teaching Assistant, Cairo University 2016-present

Tutorial classes for the following courses:

- Computer Applications (MATLAB, Visual Basic)
- Digital Electronics and Microprocessors
- Signals and Systems (System properties, Convolution, Bode plot)
- Automatic Control (Root Locus, State Space, Continues controller design)
- Digital Control (Root Locus, State Space , Digital controller design)
- Computer Control (PLC, Industrial communication, SCADA, DCS)
- Process Control (P&I diagram, Industrial PID, Fuzzy Control)

Lab Instructor, Cairo University 2016-present

Instructor for the following Labs:

- Position control using analogue controller
- Position control using MATLAB and DAQ
- Basic and Advanced PLC programming
- SCADA systems and Industrial communication
- Level Control using ABB Micro-DCS (AC700F)

Technical Skills:

Programming Languages: C, Mikro C, Arduino, Visual Basic, MATLAB

Data Base: Microsoft SQL 2012, Reporting Service

PLC Softwares: Unity Pro, RSLogix SLC 500, TwinCAT 3, SIMATIC Manager, Control Builder Plus, ABB Freelance

SCADA & HMI Softwares: Vijeo Citect, Power SCADA Expert (PSE), Vijeo Designer

Languages:

Arabic: Mother tongue

English: IELTS 6.5