Contact

algafsisaddam@gmail.com

www.linkedin.com/in/saddam-algafsi-773a4317b (LinkedIn)

Top Skills

Probability Theory

Stochastic Processes

Optimization

Certifications

Statistical Molecular Thermodynamics (Coursera)

TOEIC

Nanotechnology: A Maker’s Course

Tekonsult Certified UMTS Specialist Level 1

TOEFL

Saddam AlGafsi

Graduate Research Assistant at Clemson COMSET

Clemson, South Carolina

Experience

Clemson University

Graduate Research Assistant

August 2018 - Present

Clemson, South Carolina 29634- United States

High power lasers at the COMSET (AMRL): Center for Optical Materials Science and Engineering Technologies located in the Advanced Materials Research Lab building:

- Optics lab experience: fiber handling, cleaving, stripping, tapering, splicing...
- Optical fibers design and mode analysis simulations using Comsol

Qatar University

Research Assistant

December 2016 - July 2017 (8 months)

Doha, Qatar

A design of sensor network that uses hybrid means of communications: wirelessly through the Bluetooth technology on a global scale and wired communication through the CANopen protocol on a local scale.
The project began by choosing the electronics and the equipment(sensors, CAN bus, RPi3 as a processing unit, CAN/USB adapter(to connect the sensing nodes to the RPi...))
Then a group of wired network of sensing nodes was created taking benefit of the CANopen protocol to exchange data and commands locally in a wired way through a CAN bus. The group is composed of the different sensing nodes and an RPi3 as a master unit to perform the required processing. Those two parts communicate through a USB/CAN adapter. The master was programmed to read/send and store data from/to the CAN bus.
Other similar groups were created and then the ensemble was made able to communicate wirelessly through the Bluetooth adapter of each master (RPi3) (global wireless communications)
A mesh network with hoping is designed and tested to perform the relay of data till the data reaches the cloud platform thingspeak where it was presented as a set of plots each represent one of the used sensors.
key words: IoT-Embedded systems-Mesh networks-Wireless sensor networks-Bluetooth, RPi3

SUP'COM

Intern

March 2016 - August 2016 (6 months)

Ariana Governorate, Tunisia

End-Of-Studies project (The Engineer Degree)

Abstract:

Photonic crystal fiber technology is a dynamic and an active research domain. The interest of this technology resides in the unique and unprecedented properties offered by microstructured fibers in terms of dispersion as well as nonlinear effects. Since their introduction to the scientific community, dispersion management and nonlinearity enhancement were much easier and enabled better supercontinuum quality and thus revolutionized ultrafast optics. In this work, our goal is the design and the characterization of photonic crystal fibers for mid-infrared supercontinuum generation. Therefore, we proposed an example of a photonic crystal fiber design: a three ring air-holes As2S5 hybrid fiber where the central ring holes were filled with borosilicate and undergone a size reduction. Using the finite element method, we were able to obtain the dispersion profile and prove that the micro-structuring technique put in use is effective and enabled flattened dispersion profiles near the maximum dispersion wavelength. In a second time, we used the designed fiber to simulate supercontinuum generation using the split step Fourier method to resolve the nonlinear Schrödinger equation. Finally, an overview of the potential applications in which our supercontinuum source can be involved is presented.

Groupe Renault

Intern

March 2015 - August 2015 (6 months)

Guyancourt, Paris

Vehicular communication simulations on the platform ITETRIS;

- mobility and traffic simulation with SUMO
- implementing sending, receiving and relaying data protocols.

EURECOM

Passive Multisource localisation using Radio Signal Strength measurement

2015 - 2015 (1 year)

Nice Area, France

SUP'COM

Project: Mode division multiplexed transmission for long haul fiber communication systems.

October 2013 - April 2014 (7 months)

Ariana Governorate, Tunisia

Education

Clemson University College of Engineering, Computing and Applied Sciences

Doctor of Philosophy - PhD, Photonics Science and Technology · (2018 - 2023)

University of Idaho

Master of Engineering - MEng, Electrical and Electronics Engineering · (2017 - 2018)

EURECOM

Ons semesteer as an Exchange student (Mobility Program), Telecommunicaitons · (2014 - 2016)

SUP'COM

Engineer's degree, Telecommunications Engineering · (2012 - 2016)

IPEIT - Institut Préparatoire aux Etudes d'Ingénieurs de Tunis

Undergrduate studies, Mathematics and Physics · (2010 - 2012)