Fadi Khoury

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Education

HOLY SPIRIT UNIVERSITY OF KASLIK (USEK) – KASLIK, LEBANON   **2017 – 2022**
Bachelor of Engineering in biomedical engineering (with Honor)

COLLEGE DU SACRE-COEUR – GEMMAYZE, LEBANON   **2016 – 2017**
Lebanese baccalaureate branch general science (GS) (with Distinction)

Experience

FINAL YEAR PROJECT AT USEK IN COLLABORATION WITH THE AMERICAN UNIVERSITY OF BEIRUT (AUB) – BIOMEDICAL ENGINEERING DEPARTMENT
July 2021 – May 2022

Understanding the electrophysiological properties of songbird neurons could reveal a lot about how we humans learn and develop speech, this project aims to create an EEG headset for songbirds to facilitate the collection and analysis of data.

· Extract the frequency characteristics of EEG signals by applying the fast Fourier transform (FFT) algorithm using MATLAB and C.
· Filter noisy EEG signals using digital filters and the discrete wavelet transform.
· Study and interpret existing research methods in the literature to grasp a better understanding of the topic.
· Preprocess, understand, and interpret collected data.
· Design the headset (i.e., materials, CAD drawings).
· Familiarize with a neuroscience lab setting (e.g., lab material, safety measures, personal protective equipment, disposal procedures, and working with animals).

CLINICAL ENGINEER INTERN AT ITERMEDIC – ASHRAFIYEH, LEBANON
June 2021

Intermedic is a medical equipment company that offers services such as planning of facilities, purchase of medical equipment, installation, training, customer support, corrective and preventive maintenance, and after-sales service.

· Assisted in performing several corrective and preventive maintenance on several medical devices (e.g., portable RO, dialysis machine, X-ray machine and endoscope).
· Assisted in the delivery of medical equipment to hospitals.

OXYGEN CONCENTRATOR PROJECT – IEEE-EMBS, LEBANON
Jan 2021 – June 2021

Amidst the shortage of pressurized oxygen due to the surge of COVID-19 cases, as well as the unprecedented economic and humanitarian crisis in Lebanon, hospitals and medical centers witnessed a shortage of oxygen concentrators to assist patients in need. That said, a task force of IEEE-EMBS members across Lebanon launched an Oxygen Concentrator Project to address this problem.

· Design a low cost and highly efficient oxygen concentrator.
· Organize and participate in meetings with several suppliers in Lebanon to negotiate prices and component availability.
· Code microcontrollers, design, and implement electronic circuits for sensors and actuators (e.g., pneumatic valves, compressor, oxygen sensor, thermal sensor, and air pressure sensors).

SNAIL SLIME INTERNSHIP PROJECT – USEK
December 2020 – May 2021

Our USEK farm contains a high number of snails, which gives a precious sub-product, its slime. The snail slime is packed with healing compounds that can potentially spark a cosmetic revolution.

· Understand the effect of snail slime on the skin and its potential benefits in wound healing.
· Prepare reports and analyze data from existing research.
· Assisted in coming up with an experiment (i.e., Animal model) to test the wound healing hypotheses.

CLINICAL ENGINEER INTERN AT EMMS – THE MIDDLE EAST INSTITUTE OF HEALTH (MEIH), BSALIM, LEBANON
June 2020 – July 2020

Established in Lebanon, EMMS is an engineering and maintenance company that is well-positioned in general facility management and maintenance, a team of EMMS engineers and technicians work on-site at MEIH; a general medical & surgical hospital.

· Familiarized with the infrastructure of the MEIH hospital which includes generating and monitoring electricity, HVAC system, water treating system, solar energy, and the hospital's oxygen feeding system.
· Assisted in training new nurses on the use of defibrillators (sensor connections, settings, troubleshooting steps etc.).
· Assisted in performing several preventive and corrective maintenance on a range of medical devices (infusion pumps, oximeters, vital signs monitors, defibrillators, ventilators, and NIBP).

Skills & Abilities

· Biomedical Engineering design.
· Laboratory skills (titrating, solution preparation, histological analysis, etc.).
· Excellent interpersonal and communication skills.
· Three-year Experience in Java, C, Python, MATLAB, LabVIEW, VHDL, Arduino.
· Analyzing data in MS Excel (graphs, probabilities, etc.).
· Signal Processing (FFT, digital filtering)
· Problem solving skills (evaluating alternatives, research, creativity, decision making, problem definition).
· Delivering reports and presentations in MS Word, MS PowerPoint, and MS Project.
· Experience in AutoCAD, DIALux, Ecodial, PSpice, Logic AID, Logical Circuit and Solidworks.
· Careful measurement and analytical skills.
· Communication and team working skills.

Languages

· English, fluent (Cambridge English Level 3 Certificate in ESOL International (Advanced); grade A performance)
· French, fluent
· Arabic, native