Jafar Hamad

Augmented Reality Ph.D. Student

Contact

Pisa - Italy
(+39)3518559403
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LinkedIn Profile

IT Skills

C#
Python
TensorFlow
Keras
Pytorch
C++
Matlab
MS Office

Soft Skills

Public Speaking
Detail-oriented
Motivated to learn
Team Work
Training
Problem-Solving

Languages

Arabic (Native C2)
English (Advanced C1)
Italian (Intermediate B1)
German (Elementary A2)

Profile

As a Ph.D. student in Visual and Haptic Augmented Reality, I'm enthusiastic about pushing the boundaries of immersive technologies. Actively engaged in groundbreaking research, in providing haptic tactile feedback for surgeons while interacting with virtual bones fraction in fracture reduction planning within the real environment.

Working Experience

Ph.D. Student • Università di Pisa
Pisa-Italy | Jan *2023 - Present*

- Build AR projects on Unity3D (IDE) and deploy them on HoloLens2.
- Participating in Medical Augmented Reality Summer School 2023 (Zurich-Switzerland) and built Projective Bisector Mirror (PBM)
- Participated and published a paper in the IEEE MetroXrain conference 2023 (Milano) “Handling and Docking of the Da Vinci Surgical Robot Using Mixed Reality”.
- Participated and published a paper in the I-REM conference 2023 (Rome) “Docking Industrial Robot With Mixed Reality”
- Building a haptic wearable bracelet cuff on the wrist that communicates with HL2 via wifi and responds to the sent messages by squeezing, releasing pressure, and rotating the wrist on the right or left.

Scientific Research Internship • Ghent University. “ERASMUS”
Ghent-Belgium | October 2021 – March 2022

- Worked on deep learning-based image processing and analysis workflow for automatic detection of cerebral arterio-venous malformations from 3D Rotational Angiography images
- Used ITK snap tool for segmentation AVM and 2DCNN for classification with Keras Python.
- Achievement: AVM image classification with 90% accuracy and ability to locate in 3D scans scans

Thesis Internship • Università Politecnica Delle Marche
Ancona-Italy | February 2021 – September 2021

- Built two deep learning models for Segmentation and Classification of Pulmonary Cancer Histotypes from CT scans.
- Built the binary lung mask for the segmentation and remove the noise and the chest cavity from the CT scans using the first Model “3D_Unet”, the

second model was the 3DCNN for classification with Keras, and TensorFlow frameworks
- Achievement: the model was able to classify the cancer type with an accuracy reached 75%

Sales Engineer • Syrian Medical Services (S.M.S)
Damascus-Syria | *July* 2016 – January 2020
- Brands Marketing: Nihon Kohden (Monitor, Defibrillator, ECG) - B|Braun

References

Prof. Vincenzo Ferrari
Department of Information Engineering
vincenzo.ferrari@unipi.it

Education

Master of Biomedical Engineering • Università Politecnica Delle Marche
Ancona-Italy | *March 2020 – February 2022*
- Final Grade: 99/110
- Fully funded scholarship holder (Flor Scholarship)
- Thesis Project: Classification of Pulmonary Cancer Histotypes from CT scan

Master of Business Administration (MBA) • Syrian Virtual University
Damascus-Syria | *February 2018 – Expected October 2023*

Bachelor's Biomedical Engineering• Damascus University
Damascus-Syria | *September 2010 – August 2017*
- Thesis Project: Kidney 3D visualization and extraction of stones.
  Built on Matlab a model for segmentation of the kidney from the CT.

Courses

Programming for Everybody (Getting Started with Python)
Coursera [Feb 2021 - No Expiration Date]
Python Basics
Coursera [Feb 2021 - No Expiration Date]
Introduction to Deep Learning & Neural Networks with Keras
Coursera [Mar 2021 - No Expiration Date]
TensorFlow for CNNs: Image Segmentation
Coursera [April 2021 - No Expiration Date]