Mohamed MAAROUFI

Birmingham, United Kingdom

m.maaroufi@ymail.com
+44 (0)79 8010 7792
Researchgate.net/profile/M_Maaroufi
Github.com/Maaroufi
Linkedin.com/in/Maaroufi-m

Highly motivated candidate with a multi-discipline background, awarded by excellent academic credentials including first-class degree and with a wide variety of IT professional experience. I aspire to build the next generation of Intelligent Systems and Applications.
Feel free to visit my Portfolio online at: ***https://maaroufi.github.io***

SKILLS

- **Languages**
  PHP, HTML5, JavaScript, C#: Advanced
  Java, C, C++, Python, SQL, LUA: Intermediate

- **Game Engine and tools**
  Unity 3D, Blender, Vuforia, Photoshop, Visual Studio, JetBrains Rider

- **Version control**
  Git (GitHub, GitHub Desktop)

- **Database and Big Data framework**
  MySQL, SQL Server, phpMyAdmin, MongoDB, Excel, Hadoop, Spark, MapReduce

- **Cloud based technology**
  AWS (DynamoDB, Cognito), Docker, Paperspace

- **Data Science and Machine Learning Platform and libraries**
  Anaconda, MATLAB (2019b), Jupyter Notebook, TensorFlow, OpenCV, Keras, Pandas, Matplotlib, NumPy

PUBLICATIONS, OUTCOME AND PRESENTATIONS

- Abdlkarim, D., Di Luca, M., Maaroufi, M., Aves, P., Yeo, S., Miall, R., & Holland, P. et al. (2022). *A Methodological Framework to Assess the Accuracy of Virtual Reality Hand-Tracking Systems: A case study with the Oculus Quest 2*. doi: 10.1101/2022.02.18.481001

- *Virtual reality helps stroke patients overcome hand movement impairments. (2022). Retrieved 28 June 2022, from https://cordis.europa.eu/article/id/436475-virtual-reality-helps-stroke-patients-overcome-hand-movement-impairments*

- Holland, P., Maaroufi, M., Abdelkarim, D., & Galea, J. (2021, April). *Using online collection of hand tracking data in Virtual Reality: A proof of concept study with visuomotor adaptation of grip aperture*. Society for the Neural Control of Movement (NCM). April 2021

ACCOMPLISHMENTS

- Development of an immersive serious game/task for the Galea Lab project (ERC funded), with hand tracking to collect data of upper-limbs movement during visuomotor adaptation of grip aperture and I built an online collection using AWS DynamoDB cloud database in real-time. I used Unity to build the task and Python to import (AWS CLI remote tunnel) and analyze data collected into the JSON format

- Built an Augmented Reality "extension" device (Stereo camera rig) to support AR for the Oculus Rift virtual reality headset and add a hand tracking function. I implemented the hand tracking function by using a Machine Learning algorithm (Convolutional Neural Network) with TensorFlow and OpenCV. The video HTTP streamed from a Flask Server to Unity and rendered to the Oculus HMD, and the hand box coordinates were sent using UDP to Unity.

EDUCATION

2019-2020   **Master's degree in Computational Neuroscience and Cognitive Robotics**
University of Birmingham – Birmingham
Thesis topic**:** " Development of a VR (**Virtual Reality**) application to examine the influence of reward on motor performance."
*Technical environment: **Unity**, C#, AWS (DynamoDB, Cognito), Blender, Jupyter, Anaconda, Python*

2016-2019   **Bachelor's degree (Hons) in Computer Science (1st class)**
University of Wolverhampton - Wolverhampton

Languages: English: Intermediate.
French: Fluent (Native).

EXPERIENCES

Full stack Web and Application Developer - Freelance (2008-2016)
Birmingham (UK) / PARIS (France)

- Development of Web Portals
  - VPS Management, implementation, and optimization of Linux, Nginx, Apache, and Varnish architecture.
  - Implementation of a portal/blog/forum-based structure: CMS Drupal 7 and Joomla 2.x, MySQL DB.
  - SEO optimization.
  - Management of interactivity with social networks (Facebook, twitter, Viadeo, LinkedIn, etc.).
  - Development of an online Web store: eurilys.com, with the CMS Thelia,
- Implementation of payment method, creation of a product catalog.
- Web Wiki Portal using MediaWiki engine: Deployment, Creation of DB MySQL, creation of models in PHP.

Technical environment: Photoshop, Blender, LAMP architecture, phpMyAdmin, MySQL, EasyPHP, WinSCP, Unity 3D, Linux.

HOBBIES AND INTERESTS

Passionate about video games development, I research new procedural generation of 3D worlds and Quests algorithms.
Blockchain, Cybersecurity, New technologies (VR/AR) and Sciences (Neuroscience, Physics, Astronomy, Mathematics).
Scuba diving, Underwater fishing. Swimming, Gym, Football.
Cinema (science-fiction, fantasy), Travel (China, Sweden, Denmark, France, Dominican Republic, UK, Morocco, etc.).