Marcus **Wong Yew Hon**

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Bio

Graduate of MSc in Artificial Intelligence from Munster Technological University with Stamp 1G visa. With a passion for fields concerning computer vision and artificial intelligence, I am eager to utilize my skills for the good of any institution. Accomplished projects such as Augmented Reality assisted visual impairment aid for Master's research as well as indoor map reconstruction and navigation during the course of university, and I am willing to harness those skills acquired from those projects. I am very eager to learn and will not shy away from any new challenges. Proficient in Python, OpenCV, object detection, Tensorflow, Keras, Scikit, numpy and matplotlib.

Accrued industrial experience in agile based online banking solutions development for both mobile and web platforms for Malaysia's 2nd largest bank (CIMB bank) with demonstrated abilities in customer relationship skills.

Education

Munster Technological University (formerly CIT)   *Cork, Ireland*
MASTER'S DEGREE IN ARTIFICIAL INTELLIGENCE   *September 2019 – October 2020*
    GPA: First Class Honours, 79.3%

Sunway University   *Subang Jaya, Malaysia*
BACHELOR'S DEGREE IN COMPUTER SCIENCE   *March 2016 – March 2019*
    GPA: 3.74

Sunway College   *Subang Jaya, Malaysia*
FOUNDATION IN SCIENCE   *March 2015 – March 2016*
    GPA: 3.77

Experience

Nimbus Research Center   *Cork, Ireland*
RESEARCH AND DEVELOPMENT INTERN   *January 2020 – May 2020*
- Part of research initiative with Nimbus Research Center, Cork, for Master's research project.
- Researched UX component of AR devices (HoloLens) to accommodate users with visual impairments.
- Implemented working stairs detection model using deep learning YOLO object detection algorithm that is deploy-able on the Microsoft HoloLens.
- Developed stairs step count segmentation algorithm to return the number of steps on a detected flight of stairs.
- Worked with Python, CUDA, OpenCV, Unity and C#.

Cyber Village Sdn Bhd   *Petaling Jaya, Malaysia*
WEB APPLICATION DEVELOPER   *March 2019 – August 2019*
- Continued involvement in the development and maintenance of CIMB Bank Singapore's web and mobile banking platforms
- Developed in-house APIs for use in projects by third party collaborators and users.
- Written scripts to be used for automation of common database operations.
- Participated in application and web platform deployment process using IBM WAS Console.
- Involved in front end development and back-end services linking for Tabung Haji Malaysia's web platform using Angular, Typescript, Node, HTML and SCSS.
- Worked on front end development for Life Insurance Association of Malaysia's MyCoverage service using Liferay CMS, HTML, Javascript and CSS.

Cyber Village Sdn Bhd   *Kuala Lumpur, Malaysia*
INTERN   *December 2018 – March 2019*
- Involved in mobile application and web development for CIMB Bank Singapore's mobile and web banking platforms using Javascript, Cordova, AngularJS, Java, JSP, Struts, Portlet and DB2 SQL
- Researched and implemented push notification services for mobile banking application using Google Cloud Messaging (GCM) service.
- Participated in UI/UX designing for aspects of mobile application interface.

Skills

Programming Languages: Java, C#, Python, Javascript, HTML, CSS, Typescript, Scala
Databases: MySQL, MongoDB, IBM DB2
Artificial Intelligence: Machine Learning, Deep Learning, CNN, YOLO Object Detection, Tensorflow, Keras
Libraries: OpenCV, Pandas, Numpy, Scikit Learn, Unity, Matplotlib, Spark, Struts MVC, Portlet, Akka
Framework/Tools: Git, Gerrit, Jenkins, Docker, AngularJS, Angular 8, NodeJS, SOAP, REST, Jsp.NET
Spoken Languages: Fluent in 4 languages including English, Mandarin Chinese, Cantonese, Malay

Projects

Stairs Detection and Step Segmentation Through Augmented Reality as Visual Impairment Aid

Python, Unity, HoloLens Emulator, C#, Darknet YOLO

As part of a research initiative with Nimbus Research Centre, Cork, Ireland, as well as a Master's research project, a deployable stairs detection and step segmentation module was developed for the Microsoft HoloLens 2 as an elementary visual impairment aid for users with glaucoma. Stairs detection was done using a custom trained YOLO CNN model and step segmentation was performed using a novel algorithm that segments steps based on clustered horizontal lines in reference to detection coordinates.

Tabung Haji THiJARI

Angular, HTML, Typescript, SCSS, NodeJS

Online platform for Tabung Haji Malaysia users to keep track and manage Hajj finances related operations. Front end development of THiJARI using Angular 8, HTML, SCSS along with NodeJS for deployment.

LIAM MyCoverage

HTML, Javascript, CSS, Liferay, JQuery

Website for Life Insurance Association Malaysia's (LIAM) MyCoverage service plan. Front end development using HTML, CSS, Javascript and Liferay CMS for content management.

CIMB Clicks SG Tech Refresh & Soft Token

Java, Jsp.NET, Struts, Portlet, REST, SOAP, AngularJS, Cordova, DB2 SQL

Infrastructure revamp for CIMB Clicks Singapore's mobile application to migrate from Silverlight to Cordova. Tasked with research and implementation of push notification services using Google Cloud Messaging (GCM) with Cordova plugins. Also involved in soft token authorization implementation for CIMB Clicks Singapore's web client and mobile application.

Indoor Map Re-construction and Navigation

Python, OpenCV, Google Visions API

Capstone Project for Bachelor's Degree. An indoor navigation system approach without prior knowledge or device requirements was proposed and implemented. Users of the system need only a taken photo of a directory map and directory lot listing for navigation to take place. The system is achieved through implementation of perspective correction, text recognition, lot segmentation with labeling, and routing techniques.

Certification

Advanced Python
Issued August 2020
From LinkedIn Learning
    Credential ID: AY5j1OGzMuCqD-hxBYUdRxVAhlIU

Docker for Data Scientist
Issued July 2020
From LinkedIn Learning
    Credential ID: AThUP-JyJ-Bw0dnWfl2-uB8RSDTZ

References

Dr. Sean McSweeney, Email: sean.mcsweeney@cit.ie

Head of Computer Science, CIT

Aqly Bin Kamarudin, Email: aqly@cyber-village.net

Senior Developer, Cyber Village