Bishoy **Roufael**

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EXPERIENCE

FARO Technologies / Software Developer and Data Scientist Intern

June 2020 -October 2020, Stuttgart, Germany

- Developed a state-of-the-art autoencoder neural network for denoising high resolution computed tomography (CT) scan images using Keras. This allowed the company to better detect surfaces of the scanned objects and increase the accuracy of their surface determination algorithm.
- Worked on a neural network for 3D construction of voxel grids from single and multi-view computed tomography (CT) projection images of different objects.

FARO Technologies / Software Developer (Working Student)

October 2020 - June 2022, Stuttgart, Germany

- Developed a disparity retrieval neural network using Keras and Tensorflow for generating depth maps from structured light (SL) stereo images.
- Worked with different deep learning super sampling networks to superscale panoramic images.
- Researched and tested different augmented reality (AR) libraries.
- Built internal tools for localizing panoramic images in a scene using internal C++ tools .
- Researched point cloud compression methods and built internal tools for compressing point clouds.
- Worked with *Amazon SageMaker* on labeling drone aerial images and developed a semantic segmentation model for detecting different objects in the images (cars, roads, walkways, ...etc).
- Worked on research of different software tools and company profiles

SKILLS

TECHNICAL
- C++ | Python | Fortran | PyTorch | Keras | Node.js | React | React Native | Linux

SOFT
- Good Communicator | Problem Solver | Open For Criticism | Good Multitasker

PROJECTS

Explore App/ Android, iOS App

February 2021 - April 2021

Developed a unified app for e-commerce, news browsing, and downloading free images. App features :
- Search and fetch products from *Amazon* and *eBay*.
- Fetch and read the latest articles from *New York Times* API.
- Fetch and download random images from *Unsplash* API on your device.

Crypto Whisper/ Python analytical tool

November 2021

Developed a python tool for monitoring cryptocurrencies prices trends and sending a notification alert to a telegram bot. [CryptoWhisper]

Deep Q Learning Path Planner/ Thesis Project

August 2019 - June 2022, Bremen, Germany

Developed a path planner for robots to avoid obstacles collision using Q learning and deep neural networks.

AWARDS

JacobsHack 2021 / Lighthouse

November 2021

Developed a backend service with Fortran for our lost and find web app and deployed it on google cloud platforms. [Atlnts-backend]

1st Place World Robotics Olympiad (Local Round) / Open Category (Sustainability)

June 2018

- Developed a 3D Cad model using *SolidWorks* for an agricultural robot which takes soil samples and draws statistics about it.
- Worked with *Arduino* microcontroller and sensors to design soil extraction mechanism. [Article]

EDUCATION

Jacobs University Bremen / B.S Robotics and Intelligent Systems

August 2019 - June 2022, Bremen, Germany

Minor : Computer Science

Ismailia STEM High School / High School Diploma

June 2016 - June 2019