Bruno Carlos Dos Santos Melício

Computer Science PhD Student

I am a problem solver seeking to leverage Artificial Intelligence (AI) knowledge to help people overcome physical and cognitive challenges imposed by disability, health condition or old age, using the latest AI methods. I am specifically interested in the application of AI in Health Care.

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EDUCATION

Computer Science PhD
Eötvös Loránd University, Fac. of Informatics

09/2021 - Present   *Currently on 2nd year*

Details
- Research Topic: Behavior Analysis using 3D Human Pose Estimation for Remote Autism Diagnosis and Therapy
- Lecturer of the Software for Advanced Machine Learning course

Computer Science MSc
Eötvös Loránd University, Fac. of Informatics

09/2019 - 07/2021   *GPA: 4.6 / 5*

Details
- Specialization: Artificial Intelligence
- Thesis: DeepRehab: Real Time Deep Pose Refinement on the Edge – A Rehabilitation Use Case. (Grade: 5/5) ↗

Computer Engineering BSc
University of Cape Verde, Fac. of Informatics

09/2015 - 06/2019   *Average Grade: 15.33 / 20*

Details
- Final Year Project: Gaze Direction Network (GDNet). Grade:19/20 ↗
- Activities: Teacher's helper in "Intro to Python" class

WORK EXPERIENCE

Artificial Intelligence Researcher (Student job)
Eötvös Loránd University, Fac. of Informatics

10/2020 - Present   *Budapest, Hungary*

Student Research contract with the Neural Information Processing Group (NIPG) research group at Eötvös Loránd University, Faculty of Informatics.

Achievements/Tasks
- Currently supervisor of 2 MSc students researching on AI based Behavior Analysis for Autism Diagnosis and Therapy;
- Former leader of the team of 3 people researching on 3D Human Body Pose Estimation in Edge devices for Rehabilitation Centers.

Machine Learning Engineer - Internship
Nokia

06/2020 - 05/2021   *Budapest, Hungary*

Achievements/Tasks
- Developed and implemented the Face Mask Detector using Deep Learning that detects if a person is wearing a face mask and whether it is worn correctly;
- Developed a Deep Learning pipeline that generates a summarized report of recorded online meetings.

Artificial Intelligence Developer - Internship
Núcleo Operacional da Sociedade Cabo Verdeana (NOSi)

05/2019 - 08/2019   *Praia, Cape Verde*

Achievements/Tasks
- Implemented a POC of an automatic "offensive comment" blocker and video recommender for NOSi's streaming platform.

PROFESSIONAL SKILLS

Deep Learning   Machine Learning   Computer Vision

Human Pose Estimation   AI Behavior Analysis   Python

Data Science   Edge Computing   PyTorch   TensorFlow

PUBLICATIONS

AI Technologies for Machine Supervision and Help in a Rehabilitation Scenario. (2022) ↗
- Baranyi, G.; Dos Santos Melício, B.C. et al. "AI Technologies for Machine Supervision and Help in a Rehabilitation Scenario". *Multimodal Technologies and Interaction* 2022. https://doi.org/10.3390/mti6070048

DeepRehab: Real Time Pose Estimation on the Edge for Knee Injury Rehabilitation. (2021) ↗
- Dos Santos Melício, B.C. et al. "DeepRehab: Real Time Pose Estimation on the Edge for Knee Injury Rehabilitation." ICANN 2021. https://doi.org/10.1007/978-3-030-86365-4_31

HONORS & AWARDS

Stipendium Hungaricum Scholarship holder MSc & PhD (09/2019 - Present) ↗

Special Award in the National Scientific Student Conference (Országos Tudományos Diákköri Konferencia) (03/2021) ↗

1st place in the Scientific Student Conference (Tudományos Diákköri Konferencia) (12/2020) ↗

PROJECTS

DeepRehab (10/2020 - 02/2021) ↗
A Deep Learning model for Multi-Person Pose Estimation optimized for Edge TPU devices, developed to aid patients with knee injuries during rehabilitation phase.

NakedFood (10/2019 - 01/2020) ↗
A mobile application that uses Artificial Intelligence to predict food ingredients, helping allergic people to avoid harmful food.

LANGUAGES

English (TOEFL iBT - 87)   Portuguese
Full Professional Proficiency   *Native or Bilingual Proficiency*

SOFT SKILLS

Leadership   Problem Solving   Teamwork

Public Speaking   Fast Learner   Communication