

Othmane Belhoussine

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Education

Technical University of Munich

M.Sc IN DATA ENGINEERING AND ANALYTICS

Munich, Germany

Oct 2021 – Expected Apr 2024

Al Akhawayn University - Summa Cum Laude

B.Sc IN COMPUTER SCIENCE - FULL-RIDE MERIT SCHOLARSHIP

Ifrane, Morocco

Aug 2017 – Jun 2021

Western Washington University

ISEP EXCHANGE PROGRAM

Bellingham, WA, U.S.A

Sept 2019 – August 2020

Work Experience

Walaris

AI ENGINEER - COMPUTER VISION (WORKING STUDENT)

- Designed and deployed different machine learning models for multi-object detection, tracking and classification.
- Developed online data augmentation techniques (i.e image inpainting, domain translation) and automated ML workflows for benchmarking.

Munich, Germany

April 2022 – August 2023

Digitalia Consulting

SOFTWARE ENGINEER INTERN

- Developed a full-stack B2C software bundle in NodeJS and VueJS for the Moroccan royal holding 'Sotherma'.
- Coordinated a team of developers and assessed daily progress within an agile environment.

Colombes, France

June 2021 – Sept 2021

Al Akhawayn University - Center for Learning Excellence

ACADEMIC TUTOR (PART TIME)

- Provided students with academic support and taught different computer science and math courses.

Ifrane, Morocco

Sept 2020 – June 2021

Research Experience

AI in Medicine Lab - Technical University of Munich

RESEARCH PROJECT SUPERVISED BY PROF. DANIEL RÜCKERT AND DR. GEORGIOS KAISSIS

- Investigated the trade-off between privacy and utility in models trained with differential privacy on medical data.
- Focused on the impact of gradient clipping and noise addition on various model architectures used in the medical domain.

Munich, Germany

Mar 2023 – Sep 2023

Bioinformatics Lab - Western Washington University

RESEARCH PROJECT SUPERVISED BY PROF. FILIP JAGODZINSKI

- Worked on the identification of impactful mutations in COVID-19's Spike protein, aiming to limit its virulence.
- ACM Publication link: <https://dl.acm.org/doi/10.1145/3388440.3414706>

Bellingham, WA, U.S.A

Feb 2020 – Aug 2020

NEAT Lab - Western Washington University

RESEARCH PROJECT SUPERVISED BY PROF. SHAMEEM AHMED

- Develop InterviewR: an H.C.I project to help neurodiverse individuals conduct better interviews using artificial intelligence in V.R.

Bellingham, WA, U.S.A

Sept 2019 – Feb 2020

Skills

Technical Skills: Machine Learning, Algorithms & Data Structures, Object Oriented Programming, Linux, Git

Programming: Python, C/C++, Javascript, Java, NodeJS, SQL, PyTorch, OpenCV, TensorFlow, HTML5 / CSS

Projects

Temporal Information Embedded Guidewire Tracking

A REAL-TIME GUIDEWIRE TRACKING AND SEGMENTATION SYSTEM TO ENHANCE SURGICAL EFFICIENCY.

Vision Transformers, R-PCA

github.com/Belhoussine

NeuralNet

A DEEP LEARNING LIBRARY TO DESIGN, BUILD AND TRAIN NEURAL NETWORK MODELS.

Deep Learning, Python, NumPy

github.com/Belhoussine/NeuralNet

Retinopathy Detection

MACHINE LEARNING BASED OCULAR DISEASE DETECTION USING CLINICAL RETINAL FUNDUS IMAGES.

Machine Learning, Computer Vision

github.com/Belhoussine/Retinopathy

Boid

NEUROEVOLUTION SIMULATION COMBINING BOTH NEURAL NETWORKS AND GENETIC ALGORITHMS.

Genetic Algorithms, Javascript

github.com/Belhoussine/Boid

Awards

Jun 2021

Stonehenge prize, Best research-oriented thesis of the 2021 cohort at Al Akhawayn University.

A.U.I

Jan 2020

Outstanding Maker, Awarded in Harvard's annual Makeathon, MakeHarvard 2020

Harvard University

Feb 2020

NSCS Lifetime Honorary Member, National Society of Collegiate Scholars

N.S.C.S.

2017-2021

University President's List, in 3 distinct semesters. Awarded Dean's list in all other semesters.

A.U.I

Activities

Oxford Hack 2020, Make-Harvard 2020, ACM-MCPC, Head of the scientific committee for the Moroccan Coding Cup