Yanick Christian **Tchenko M.Sc.**

Study program: Technomathematics (B. Sc)
at the University of Duisburg-Essen.

Essen, Germany
LinkedIn

In addition to my previous studies in "Applied Computer Science - Software and Network Engineering (M. Sc.)" and my Bachelor's degree in Mechatronics, I have gained some practical experience so far through my various activities in the field of software development. I envision my future career mainly in Managing and developing data-driven Software-systems, e.g., using Machine Learning. I am excited about complex problems that can be tackled using learning-based approaches.

Education

Since Mai 2020	University of Duisburg-Essen (Computer Science M.Sc. | Technomathematics B.Sc.)
2016 – 2020	Hamm-Lippstadt University of Applied Sciences (Mechatronics B. Ing)
2014 - 2016	Goethe Institute, Cameroon (learning German language)
2008 - 2014	Lycée Bilingue de New-Bell, Cameroon (high school)

Skills

Programming	Python, C/C++, C#, SQL/PL SQL, MATLAB/Simulink, Solidworks, Solver GPLK
EDP skills	Microsoft Office programs
Electrical Engineering Programs	Ultiboard, Multisim, Spice, Fitzing, Eagle
Development Environments	Eclipse, VS Code, SVN, Gitlab, Github, pycharm, etc.
OS	Windows Server, Windows 7 - 11, Linux-ubunto, XFCE
Other	Technoligies RFID, Radar

Practical experiences

Today – January 2020 — Software developer and Mathematician , GRIPS Industrial IT Solutions GmbH, Germany
- GLPK, SQL, SSRS, ProcessView
- Reports
- Linear Programming (LP)
- Data visualization for Steel-industry

c# | VBA | GLPK | Qt-Designer | SQL | python | pyTorch | c/c++ | HTML5 | Report Builder | R | SSRS

March 2021 – November 2020 — Research Assistant ProDaZ, Universität Duisburg Essen , Germany
- Server programming
- Website programming

php | html | javascript

January 2021 – February 2020 — Working student BCI, SNAP GmbH, Germany
- server Programming, Brain Computer Interface

Python | Pytorch | Machine learning

march 2020 – February 2019 — Bachelor thesis and working student, research and development, ASO GmbH, Germany
- Selection of a radar-based obstacle detection methodology, optimizing and implementing it for airport vehicle bumpers.
- Modeling of radar pattern for display and 3D environment as well as GUI production
- MATLAB-C code generation and integration with radar front-end
- Code extension in Visual Studio (C/C++)
- Radar signal processing

MATLAB | Simulink | c# | c | c++

February 2019 – August 2018 — working student in Production Engineering, UTC Aerospace AG, Germany
- Project: Development of the communication interface for data exchange and analysis between Excel and SAP (VBA programming)
- Project: Development of a software for processing old mdb-Access databases (1997) in today's MS package (accdb)
- General IT activities (deployment on Windows and Ubuntu OS computers) and system administration in the production engineering department

VBA | Access

October 2018 – February 2018 | **project work & Internship, research and development,** AEG Power Solutions GmbH, Germany
- "Setup and commissioning of an analog interface between STM32 microcontroller and PC via MODBUS"
- Microcontroller programming (Eclipse, Cortex 7-STM32)

MODBUS | UDP | TCP | TrueStudio | c# | c/c++

February 2018 – October 2017 | **Tutor in Mathematics 1 and Physics,** Hamm-Lippstadt University of Applied Sciences, Germany
- Follow-up of exercises with students of mechatronics
- Participation in pre-course lectures

September 2017 – August 2017 | **Tutor in math pre-courses,** Hamm-Lippstadt University of Applied Sciences, Germany
- Working on the exercise problems with future students in courses of mechatronics, industrial engineering.
- Participation in pre-course lectures

Languages

German ●●●●●
French ●●●●●
English ●●●○○

Strength

- passionate
- motivated
- determined
- independent

Degrees

2023 Master of Science in Applied Computer Science
2024 executive: Bachelor of Science in technomatematics
2020 Bachelor of Engineering in Mechatronics
2016 German language examination for university entrance at Leibniz University of Hannover
2014 General university entrance qualification with advanced courses in mathematics and physics

Projects

3D Reconstruction in the field of omnidirectional vision
March 2023 - February 2026

Goal: This project aims to propose a novel wide FoV (Field of View) reconstruction system using Deep Learning approaches. The system should be able to infer the geometry of the full 360 degrees of the scene in the domain of computer vision.
Key words: Deep Learning, spherical images, 3D-reconstruction, Instance segmentation, Computer Vision, Object detection, Augmented Reality, Virtual Reality

python | PyTorch | OpenCV | TensorboardX | CUDA | Tensorflow | C/C++

Master's thesis: Compression of DNN-based Object detectors (YOLO-V4) using Knowledge Distillation (KD)
June 2022 - March 2023

Goal: This project aims to develop new KD approaches to compress the very large DNN models (teacher) into small DNN models (student), which can be deployed internally on edge devices in the industrial field. It is expected to deal with the issue of accuracy loss when compressing DNN models. We apply response-based (RsKD), feature-based (FKD), and relation-based (RKD) as well as multi-type Knowledge distillation (MKD)on the YOLO-V4 Object detector and show that using especially the RKD, we can compress DNN models and simultaneously conserve and even improve the inference time as well as the accuracy.
Key words: Deep Learning, YOLO-V4, YOLO-V3, Faster RCNN, Knowledge Distillation, Computer Vision, Object detection

python | PyTorch | ONNX | OpenCV | TensorboadX | CUDA | C/C++

Enhanced health intelligence for personal behavioral strategies in everyday life
October 2021 - March 2022

Eghi
Goal: The aim of the project is to develop an AI-based learning assistance system that supports healthy everyday behavior.
Main Activity: Mobile Augmented Reality, Mixted Reality, location based AR

ARCore | Andoid | Java | Dart

Visually Connecting Historical Figures Through Event Knowledge Graphs

October 2020 - April 2021

VisKonnect

Goal: Human-Computer Interaction: Knowledge graphs store information about historical figures and their relationships indirectly through shared events.
Main Activity: Knowledge and Maps graphs store information about historical figures

Angular | Elasticsearch | D3

Project Carolo Cup, student competition on the topic "Autonomous Driving"

March 2017 - March 2020

Carolo Cup

Goal: Object recognition and tracking, Signal and image processing
Main activities: Information technology and electrical engineering (image processing, model building, longitudinal and lateral control), Leadership and project management, IT (subversion)

svn | MATLAB | Visual Studio Code | Python

Interest & Publications

Playing soccer and basketball, reading, research

VisKonnect

Abstract: Knowledge graphs store information about historical figures and their relationships indirectly through shared events. We developed a visualization system, VisKonnect, for analyzing the intertwined lives of historical figures based on the events they participated in. A user's query is parsed for identifying named entities, and related data is retrieved from an event knowledge graph. While a short textual answer to the query is generated using the GPT-3 language model, various linked visualizations provide context, display additional information related to the query, and allow exploration.