



Educational Research Institute

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An AI-based approach to recognizing the level of qualifications based on learning outcomes

Using digitalisation and transparency tools to support comparison and recognition of VET qualifications

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Integrated Qualifications System

- the Integrated Qualifications Register (IQR) - core part of the IQS
- IQR covers all qualifications (incl. VET)
- applications supporting different IQS users
- various AI tools used



Integrated Qualifications System

Filters × ▼

Part of description/name...
 Also search in the description

Qualification category: ⊕ × ▼

- market
- sectoral
- market qualifications in crafts
- regulated
- other qualifications
- vocational education
- fine arts education
- higher education
- post-graduate studies
- doctoral studies

Qualification status ⊕ ▼

Sector ▼

Sector - from vocational education ▼

PQF level ⊕ ▼


Advanced ▼

Search

Qualifications available in the Integrated Qualifications System

Found 1532 qualification category ☰ ☲


IN OPERATION



Supporting individuals experiencing psychological crises in the recovery process by individuals with experience of psychosis (recovery assistant)

P R K 4


IN OPERATION



Providing development services for organizations (business trainer)

P R K 6


INCLUDED



Training in communication with patients and their relatives and within the therapeutic team

P R K 6


INCLUDED



Quality Control in the Apparel Industry

P R K 4


INCLUDED



Conducting logistics activities related to apparel manufacturing

P R K 4

INCLUDED



Communication with the patient and his/her relatives

P R K 6

IN OPERATION **IN OPERATION** **IN OPERATION**

<https://kwalifikacje.gov.pl/en/>

Applications and AI tools in the IQS



chatbot

LLM + RAG

linking with:

- ESCO skills
- hobbies
- aptitudes

US
NIW NIWUS



recognition of
the NQF/EQF
qualification
level

assignment of
validation
methods

Vocational Education
Compass

qualification
groups

mapping
qualifications
and
occupations

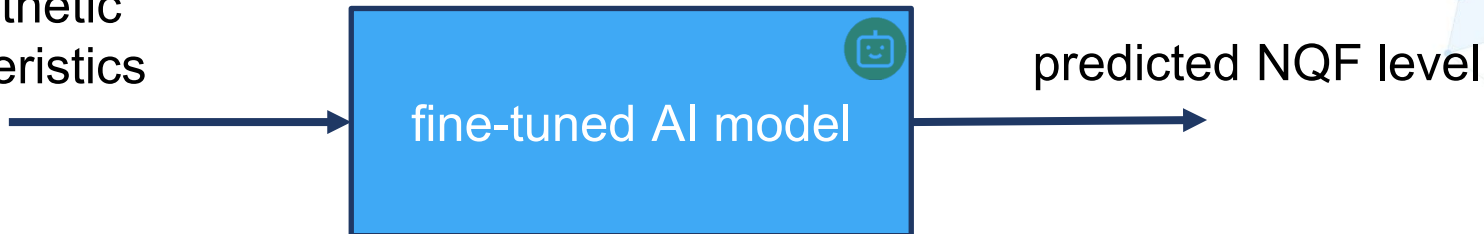
semantic
search

AI-Based NQF Level Recognition Model

- task-specific fine-tuned BERT model
- support for:
 - qualification describers
 - experts assigning PQF levels

AI-Based NQF Level Recognition Model

learning outcome(s)
and synthetic
characteristics



- model variants using different datasets:
learning outcomes,
synthetic characteristics,
descriptors from the NQF

AI-Based NQF Level Recognition Model

learning outcomes

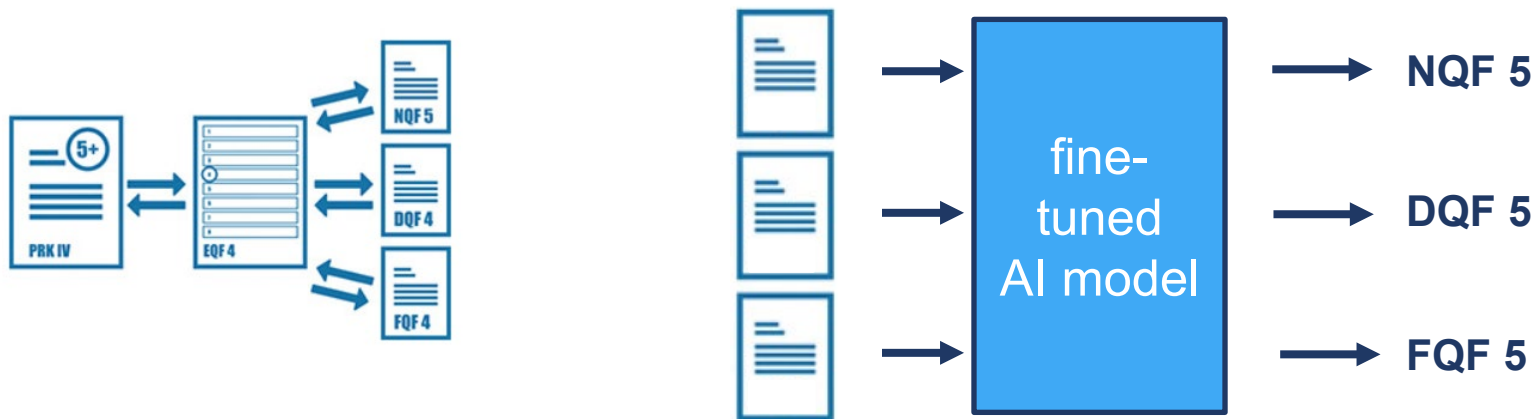
Analyzes the client's project requirements
Discusses the theoretical foundations of
computer graphics design
Acquires graphic materials
Prepares the project for publication
Prepares the graphic design project

predicted NQF level

Efekt wraz z kryteriami	Predykcja poziomu PRK
› Analizuje wymagania zleceniodawcy dotyczące projektu	4
› Omawia teoretyczne podstawy projektowania grafiki komputerowej	6
Pozyskuje materiały graficzne wskazuje źródła darmowych materiałów	4
Przygotowuje projekt do publikacji sprawdza projekt i korektuje	4
Przygotowuje projekt graficzny ustala parametry charakterystyczne	6

AI-Based NQF Level Recognition Model

- versatile tool supporting NQF level recognition (for different needs)
- can be fine-tuned for other languages
- support for recognizing foreign qualifications




Integration of the AI model into the NIWUS tool

- AI model as a microservice in NIWUS

Sugerowany poziom PRK: 5-7

 Poziom sugerowany na podstawie efektów uczenia się oraz syntetycznej charakterystyki

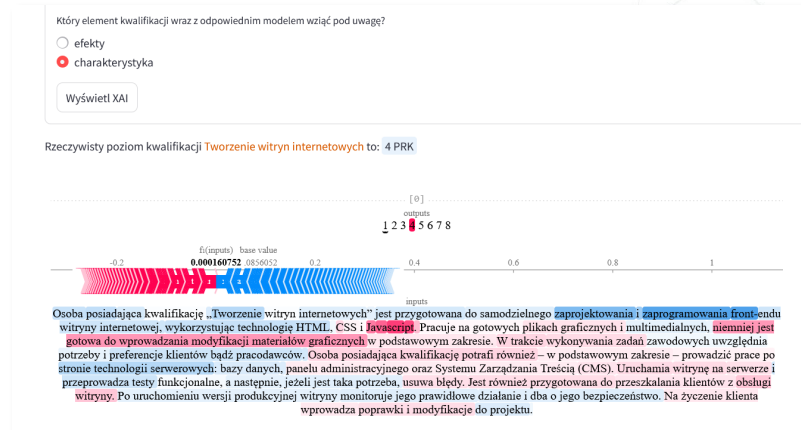
Inteligentne wsparcie 

Poziom PRK sugerowany przez model AI na podstawie efektów uczenia się oraz syntetycznej charakterystyki:

Poziom PRK: **5-7**

Research and development

- XAI = deeper linguistic insight into learning outcomes
- better understanding of learning outcome language
- transferable insights
→ support skill ontology development



AI-driven methods for working with NQFs

- AI-based approach shows strong results for qualifications
- support for monolingual and multilingual text processing
- challenges:
 - limited access to data
 - quality and volume of the dataset
- need for cooperation between stakeholders (also internationally)



ZINTEGROWANY
SYSTEM
KWALIFIKACJI



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Rejestr
Kwalifikacji

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**Zintegrowany
Rejestr
Kwalifikacji**

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