

Andrzej Olczak

Fullstack / AI Developer

Email: kontakt@andrzejolczak.pl Phone: +48 505 783 269 Location: Opole, Poland Web: andrzejolczak.pl LinkedIn: linkedin.com/in/andrzejolczak
ORCID: 0000-0002-6834-3830

PROFILE

Fullstack and AI developer with **15+ years** of commercial experience building and maintaining production web systems end-to-end. For the past years focused on **applied AI** - LLM agents, real-time voice AI, RAG, and NLP/PII anonymization - delivered as production microservices. This builds on earlier **neural-network and sensor-fusion research** from PhD studies in Automation & Robotics. Comfortable owning a system from database and backend through frontend to deployment (Docker/Kubernetes), and equally comfortable keeping a large legacy platform alive and performant under real production load.

SELECTED ACHIEVEMENTS

- **Sole author of production AI microservices** at Weegree: a job-title classification service (Polish KZIS occupation codes) using Azure OpenAI with **vector semantic search** and RAG web-search verification; and a full **CV parsing & PII-anonymization pipeline** (GDPR) combining Presidio, spaCy and Stanza NER, OCR and multiprocessing.
- **Built real-time AI voice agents** for automated recruitment calls - evolving the voicebot from a scripted Django/Twilio IVR to natural **speech-to-speech** agents on the **OpenAI Realtime API** and **ElevenLabs Conversational AI**, wiring Twilio Media Streams over WebSockets with barge-in handling (~9 architecture iterations).
- **Developer and maintainer of a large legacy ATS** (~2,600 PHP files, custom MVC framework + mini-ORM, ~100 job-board integrations, Apache SOLR search). **Recovered and optimized its MySQL performance three times** under load - query profiling, forced indexes, materialized statistics caching.
- **Production prompt engineering** for a multilingual voice agent (11 languages) on Gemini 2.5 /3.5 Flash via ElevenLabs: versioned master/slim prompts, dynamic variables, anti-prompt-injection and GDPR guardrails, with an automated MD→JSON/SQL pipeline.
- Delivered an **LLM-based candidate-to-offer scoring** engine (Assistants API + Vector Stores) and **validated its quality statistically** against recruiter judgments (Spearman rank correlation).

EXPERIENCE

Key Full Stack Officer → AI Developer - Weegree Jun 2022 – present

- Design, development and maintenance of the **es-candidate.com ATS** and an internal ERP platform, plus numerous microservices and ETL processes.
- Built and own several **AI/NLP microservices**: occupation-code classification, CV parsing & PII anonymization, ATS tag-ontology cleanup, and candidate scoring.
- Developed **AI voice agents** (OpenAI Realtime, ElevenLabs, Twilio) and the supporting .NET voice-agent backend.
- Backend contributor to the **.NET 6/8** ATS & onboarding APIs (ASP.NET Core, Dapper, MS SQL/MySQL, JWT); frontend on the **React/TypeScript** platform and the **Flutter** mobile app.
- Collaboration on an **NCBiR R&D grant** - proposal writing and joint implementation.

Stack: Python (FastAPI, Flask, Django), C#/.NET 6&8, PHP, React/TS, Flutter · Azure OpenAI, OpenAI, Gemini, ElevenLabs, Twilio, LangChain, Presidio, spaCy/Stanza, SOLR · MySQL, MS SQL, PostgreSQL · Docker, Kubernetes

PHP / JavaScript / SQL Developer - Martyna Kostka - Lectus Health & Beauty Jul 2021 – May 2022

- Development and maintenance of the **lectus24.pl** online shop; administrative work.

JavaScript / PHP / SQL Developer - High School No. 1 in Opole Jan 2020 – Nov 2021

- Designed and built **"Zagraj w BIO z LO"** - a GPS location-based educational PWA (BabylonJS, PixiJS) with 8 interactive mini-games; delivered a programming course with 2D/3D game elements for children.

JavaScript / PHP / SQL Developer - ZAGA S.C. Feb 2019 – Jul 2021

- Built web applications and services for internal company needs; administrative work.

Programming Instructor (teaching) - Opole University of Technology 2015 – 2019

- Taught programming classes to university students throughout my doctoral studies, alongside research work and publications.

Software Engineer (PHP, JS, SQL, C++, C#, Java) - ARFixer Sp. z o.o. Aug 2013 – Jan 2019

- CMS and back-end web architecture for mobile **Augmented Reality** applications; designed and maintained a production system for a wall-decoration manufacturer.

Earlier roles

Quan Sp. z o.o. - PHP/JS/SQL developer & sysadmin; distributed systems for clinic traffic management (2011–2013). · **XCITY Game Dev Studio** - web-app developer (2010). · **ZUS Opole** - IT help-desk & PHP/JS, internship (2008).

CORE SKILLS

AI ENGINEERING

LLM agents RAG Tool / function calling

MCP Structured output

Embeddings & vector search Prompt engineering

LLM evaluation Fine-tuning

Neural networks (RNN/LSTM)

LLM PLATFORMS

OpenAI API Azure OpenAI Google Gemini

Anthropic Claude OpenRouter Ollama (local)

LangChain

VOICE AI

ElevenLabs OpenAI Realtime Twilio

Speech-to-speech TTS / STT

NLP & DATA

Presidio spaCy Stanza NER PII / GDPR

OCR (Tesseract/EasyOCR) Docling

BACKEND

Python C# / .NET 6-8 PHP FastAPI

Django Flask ASP.NET Core Dapper

FRONTEND & MOBILE

React TypeScript Redux JavaScript

Flutter / Dart PWA BabylonJS

DATABASES

MySQL MS SQL / T-SQL PostgreSQL

SQLite Apache SOLR Chroma DuckDB

DEVOPS

Docker Kubernetes Git / SVN

EDUCATION

2003 – 2008
M.Sc., Computer Science
Opole University of Technology

2006 – 2010
B.Eng., Management & Production Engineering
Opole University of Technology

2015 – 2019
PhD studies, Automation & Robotics
Opole University of Technology (discontinued)

LANGUAGES

Polish - Native
English - Professional working proficiency
German - Basic

RESEARCH & ACADEMIC BACKGROUND

PhD research - Automation & Robotics, Opole University of Technology
2015 – 2019 · programme discontinued (no defense)
Doctoral research on **time-series modeling with recurrent neural networks (RNN/LSTM)**, combined with **sensor fusion** and **adaptive filtering** for motion tracking and positioning of mobile devices using MEMS sensors. Additional work on real-time 3D rendering and biomedical signal analysis (EEG, NMR metabolomics), resulting in 15+ publications.

Funded research task - mobile-device positioning (MEMS)
no. DS-SD/72/WE/17 · Opole University of Technology
"Positioning of mobile devices using adaptive-filtering tools and identification methods based on MEMS sensors."

Conference talks (speaker)
"Concept of a brain-controlled exoskeleton based on motion tracking and EEG signals analysis" - 3rd International Scientific Conference on Brain-Computer Interfaces, Opole (2018). · "Zagraj w BIO z LO" - introduction to an educational e-game built for the "Ochrona BIO w Mieście Opolu" biodiversity programme - conference "Opolszczyzna i jej naturalne dziedzictwo", Opole (2021). · Topic talks at doctoral workshops, Opole University of Technology.

TRAINING & CERTIFICATIONS

- **AI Devs** - agentic-AI course (2026): agent loops, tool/function calling, MCP servers, multimodal vision, structured output, RAG. Experiments with fine-tuning open-source models (Llama 2).
- **Hacking vs Artificial Intelligence** - tricks & practice, Sekurak (2023).
- **Web Application Security** - Sekurak (2020).
- **Currently exploring:** Brave Search API - web-search tooling for LLM agents.

SELECTED PUBLICATIONS

Author / co-author of **15+ peer-reviewed & conference papers**. Full list: orcid.org/0000-0002-6834-3830

JOURNAL ARTICLES & BOOK CHAPTERS

Serum metabolite and metal ions profiles for breast cancer screening. Scientific Reports (2024). - metabolomics, metallomics & machine learning.
Serum NMR metabolomics to differentiate haematologic malignancies. Oncotarget (2018).

Concept of a Brain-Controlled Exoskeleton Based on Motion Tracking and EEG Signal Analysis. Springer, book chapter (2018).
Modern Devices and Software Solutions for Education on Local Biodiversity. Springer, book chapter (2021).

SELECTED CONFERENCE & WORKSHOP PAPERS

Motion tracking by the sensor-fusion method in the Android environment. Opole Univ. of Technology (2017).
Implementation of a first-order adaptive filter for gravity compensation in accelerometer readings. (2016).
Alternative applications of sensors embedded in mobile devices. (2016).

A comparative analysis of Tustin-based discretizers for fractional-order derivatives in the frequency domain. (2016).
Performance of babylon.js / Irrlicht in real-time 3D model rendering. (2016–2018).
3-in-1: distinction of haematologic malignancies based on serum NMR metabolomics. EUROMAR (2017).

I agree to the processing of my personal data for the purposes of the recruitment process I am applying for (GDPR / RODO).

FIELDS

RNN / LSTM

Time-series modeling

Neural networks

Sensor fusion

Adaptive filtering

Motion tracking

MEMS sensors

Signal processing

EEG

NMR metabolomics

Real-time 3D rendering

Machine learning