Raya Kichukova

Applied Data Science & AI student | Seeking a machine learning or data science internship, February 2027
Breda, The Netherlands | +31 617179910 | ry.kichukova@gmail.com | linkedin.com/in/rayakichukova | rayakichukova.com

PROFILE

Third-year student who builds machine learning systems and measures the value they create. I plan the work and coordinate international teams so that everyone can contribute, and I explain technical topics to non-technical audiences, from leading an AI workshop for prospective students to pitching to a client.

EDUCATION

BASc Applied Data Science & Artificial Intelligence | *Breda University of Applied Sciences* Sep 2024 – Present

- Project-based curriculum with real-client work (NPEC, Alternate, IKEA).

EXPERIENCE

Student Assistant | *Breda University of Applied Sciences, Visitor Centre* Jul 2026 – Present

- Developed a Python voice assistant for the Visitor Centre's NAO reception robot: speech capture, a knowledge-base chatbot, spoken replies and pointing gestures.
- Wrote and tested the system prompt and knowledge base so the assistant never invents locations, prices or contact details.
- Benchmarked local and hosted language models on safety and latency; now runs Qwen3.6-27B on the university server.

PROJECTS

Temporal Degradation in Object Detection | *Research project, solo* Mar 2026

- Showed that contemporary-trained detectors lose 61–63% of their mAP on historical street photos (scored on held-out images), and that morphology, more than image quality, drives the drop.

Autonomous Root Tip Inoculation | *University project for NPEC, solo* Jan 2026

- Built a simulated lab robot that finds plant root tips in photos and moves a pipette to them: U-Net segmentation (F1 0.86), tip tracing, pixel-to-robot calibration, and PID and reinforcement-learning control (89 of 95 tips found).

Policy-Grounded Claim Decisions with RAG | *University project for Alternate, team of two* Jan 2026

- Built the RAG decision step of a return and warranty system: chunked policy in ChromaDB with bge-m3 embeddings, top-3 retrieval, and a Qwen2.5-7B decision with reasoning and confidence.

Real-Time Sign Language Recognition | *University team project* Jun 2026

- Worked across the stack of a browser-based recognition system for 22 NGT letters (models gated at 0.85 accuracy and 0.80 F1).

Emotion Recognition in Bulgarian Speech | *University project, team of four* Oct 2025

- Trained the LSTM and co-built the XLM-RoBERTa model used in the pipeline (macro F1 0.42 vs 0.33 for LSTM).

SKILLS

Programming: Python, SQL, Bash

Machine learning: PyTorch, scikit-learn, Keras, XGBoost, Transformers, OpenCV, RAG

Data and tools: pandas, NumPy, PostgreSQL, ChromaDB, LangChain, Power BI, Git

Cloud and systems: Azure (VM, Blob Storage, PostgreSQL), Docker, FastAPI, Redis, system design, ADRs

Languages: Bulgarian (native), English (full professional proficiency)

CERTIFICATIONS

Microsoft Power BI: Data Modeling, Data Preparation, Report Design, Customer Churn Analysis, User-Oriented Design

Python: Supervised Learning with scikit-learn, Image Modeling with Keras, Feature Engineering for Machine Learning, Exploratory Data Analysis, Time Series Analysis, Manipulation and Visualization

SQL: Database Design, Relational Databases, Data Joins, Data Manipulation, Data Warehousing Concepts, Snowflake