

Erika Azevedo — Knowledge Base for Portfolio Chatbot

SECTION 1 — FREQUENTLY ASKED QUESTIONS ABOUT ERIKA

How long has Erika been a data scientist?

Erika has been working with data professionally since **mid-2023**, when she joined **TIPREV** as a data scientist.

Before that, she had **years of research experience** applying data analysis and modeling in biomolecular physics.

Altogether, she has over **7 years of experience** working with data in research, teaching, and consulting contexts.

What is Erika's academic background?

Erika holds a **Ph.D. in Biomolecular Physics** from the **University of São Paulo**, where she specialized in computational modeling and data analysis for protein dynamics.

She also holds a **Master's** and **Bachelor's** degree in the same field, plus a **Licenciatura** in Exact Sciences.

What tools and technologies does Erika use?

She works mainly with **Python**, **pandas**, **scikit-learn**, **TensorFlow/Keras**, **LangChain**, and **Hugging Face** for machine learning and AI.

For data engineering and deployment, she uses **FastAPI**, **Docker**, **SQL (PostgreSQL, SQLAlchemy)**, and **Google Cloud (Vertex AI, Cloud Run)**.

She also builds dashboards with **Tableau** and **Streamlit**.

Where did Erika study data science?

She completed the **Le Wagon Data Science & AI Bootcamp** in early 2025, where she trained intensively in ML, MLOps, and GenAI.

There she built projects like **Eyesense** (deep learning) and **SecureMed Chat** (RAG chatbot).

Where is Erika currently based?

Erika lives in **Amsterdam, the Netherlands**, and holds a valid **Dutch residence permit**.

In which languages can Erika (or this chatbot) answer?

The chatbot can answer in **English, Portuguese, or Dutch** — depending on the user's preference or the language used in the question.

What is Erika's professional focus today?

Erika is focused on **data science, analytics, and AI consulting** roles in Europe. She is especially interested in projects involving **machine learning pipelines, GenAI (RAG), and responsible AI**.

What makes Erika's profile unique?

She bridges three worlds — **scientific research, education, and data science**. Her background gives her the **analytical rigor** of a scientist, the **clarity** of a teacher, and the **problem-solving mindset** of a data engineer.

What are some of Erika's main projects?

1. **SecureMed Chat** — A privacy-first GenAI medical intake assistant using RAG and Vertex AI.
 2. **Eyesense** — A deep learning app that detects eye diseases with 92 % accuracy.
 3. **RPPS Analytics (TIPREV)** — A pension-data warehouse for 40+ municipalities, improving financial transparency.
 4. **ETL Pipeline** — Automated data ingestion from raw files to PostgreSQL dashboards.
 5. **Portfolio RAG Chatbot** — The interactive AI assistant (this one) integrated into her website.
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What is Erika currently looking for?

She is looking for **data science or AI consulting positions** in the Netherlands or broader Europe — roles where she can combine analytical modeling, storytelling, and social impact.

How did Erika transition from academia to data science?

Her transition began when she realized the same modeling and statistical methods she used for protein dynamics could be applied to business and social data.

After years of leading data-heavy research and teaching, she formalized her technical skills through the **Le Wagon bootcamp** and applied them to **real-world consulting** at TIPREV.

That combination of scientific rigor and practical application defines her as a professional today.

What industries interest Erika the most?

Finance (pension risk forecasting, fraud detection), healthcare (AI for diagnostics and privacy), and ESG or public-sector analytics — areas where data can generate measurable, ethical impact.

What are Erika's professional values?

Transparency, clarity, collaboration, and continuous learning.

She values explainable AI, ethical use of data, and building systems that empower people rather than replace them.

What can't this chatbot answer?

It cannot answer personal or private questions about Erika, such as her relationships, residence details, or opinions.

It is limited to **her public professional background** and **the information stored in this document**.

SECTION 2 — PROFESSIONAL OVERVIEW

Full name: Erika Chang de Azevedo

Location: Amsterdam, Netherlands

Nationality: Brazilian

Current Role: Data Scientist @ TIPREV

Experience: 2+ years in applied data science; 7+ years with data analysis in total.

LinkedIn: [linkedin.com/in/ecdazevedo](https://www.linkedin.com/in/ecdazevedo)

GitHub: github.com/erika-chang

SECTION 3 — CAREER STORY

Erika began her career as a **research scientist** at the University of São Paulo, modeling molecular systems and publishing peer-reviewed papers.

She developed strong skills in **data analysis, Python programming, and HPC simulations**.

Later, as a **teacher**, she learned to communicate complex ideas clearly — using data to track student performance and improving outcomes by 12 %.

That period strengthened her **storytelling and mentoring** abilities.

In 2023, Erika joined **TIPREV**, where she applied her analytical background to **public-sector pension data** — automating pipelines and building predictive models for 40+ municipalities.

This experience confirmed that her scientific training could directly translate into social and financial impact.

In 2025, she completed the **Le Wagon Data Science & AI Bootcamp**, deepening her machine-learning, GenAI, and MLOps skills.

Her projects there, including **Eyesense** and **SecureMed Chat**, demonstrated her ability to move from research code to **deployable AI solutions**.

Today, Erika works at the intersection of **data, science, and communication**, building AI systems that are not only functional but also explainable and ethical.

SECTION 4 — TECHNICAL SKILLS

Programming: Python, pandas, NumPy, scikit-learn, TensorFlow, Keras, LangChain, Hugging Face

Data Engineering & MLOps: SQL (PostgreSQL, SQLAlchemy), FastAPI, Docker, MLflow, CI/CD, ChromaDB

Visualization & BI: Tableau, Streamlit, matplotlib, seaborn

Cloud: Google Cloud (Cloud Run, Vertex AI)

Soft Skills: Storytelling, stakeholder communication, mentoring, adaptability, teamwork

SECTION 5 — PROFESSIONAL EXPERIENCE

TIPREV | Data Scientist (2023 – Present)

- Designed **forecasting and fraud-detection models** improving financial oversight for 40+ municipalities.
 - Automated **ETL pipelines** in Python + SQL, reducing manual work from days to hours.
 - Built **Tableau dashboards** for real-time pension-health monitoring.
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Le Wagon | Data Science & AI Bootcamp (2025)

- Built **Eyesense** (Deep Learning app for eye-disease prediction – 92 % accuracy).
 - Created **SecureMed Chat** (RAG GenAI assistant for healthcare, GCP deployment).
 - Learned **MLOps, feature engineering**, and **collaborative development** in agile teams.
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University of São Paulo | Research Scientist (2013 – 2020)

- Published 3 papers in computational biology and drug discovery.
 - Developed GPU-accelerated workflows (100× faster simulations).
 - Applied PCA & Markov State Models to molecular datasets.
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Secretaria da Educação de São Paulo | Teacher (2021 – 2023)

- Created a **data-driven student-tracking system**, raising averages by 12 %.
 - Led workshops on **data-informed pedagogy** and collaboration.
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SECTION 6 — EDUCATION

- **Le Wagon (2025)** – Data Science & AI Bootcamp
 - **Ph.D. (2015–2020)** – Biomolecular Physics, University of São Paulo
 - **M.Sc. (2013–2015)** – Biomolecular Physics
 - **B.Sc. (2009–2013)** – Biomolecular & Physical Sciences
 - **Licenciatura (2017–2019)** – Exact Sciences
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SECTION 7 — PROJECTS

SecureMed Chat | GenAI, FastAPI, Vertex AI, ChromaDB

→ Privacy-first RAG assistant for medical intake, GDPR-compliant.

Eyesense | TensorFlow, Streamlit

→ Deep-learning app for eye-disease detection (92 % accuracy).

RPPS Analytics (TIPREV) | Python, SQL, Tableau

→ Pension data warehouse integrating municipal records for fraud detection and forecasting.

ETL Pipeline | Python, SQLAlchemy, Docker, PostgreSQL

→ End-to-end data pipeline from raw sales to BI-ready tables.

Portfolio RAG Chatbot | LangChain, FAISS, FastAPI

→ Interactive assistant that answers questions about Erika's career.

SECTION 8 — PUBLICATIONS

1. *The β -lactam ticarcillin is a *Staphylococcus aureus* UDP-N-acetylglucosamine 2-epimerase binder*
 2. *Energy landscape of the domain movement in *Staphylococcus aureus* UDP-N-acetylglucosamine 2-epimerase*
 3. *Thermodynamic analysis of interactions of the Hsp90 with adenosine nucleotides: A comparative perspective*
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SECTION 9 — VALUES & GOALS

Core values: clarity, rigor, collaboration, ethical AI.

Current goal: build a stable data science career in the Netherlands, working on projects that unite technical precision with social impact.