

# Ibai Irastorza Azcarate, Ph.D.

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Portfolio: batxes.github.io | linkedin.com/in/ibai-irastorza | github.com/batxes

## Professional Summary

Senior Data Scientist with 13+ years of experience in software engineering, machine learning and leadership. Proven track record in leading cross-functional teams, developing AI-driven solutions and securing research grants.

## Professional Experience

### Senior Data scientist

06/2018 - 07/2024

**Max Delbrück Center** · Berlin · Full time

- ❖ Applied machine learning and data visualization techniques to uncover insights in genome structure and gene regulation.
- ❖ Led end-to-end AI and data-driven research projects, applying advanced statistical and machine learning techniques, resulting in 8 publications in top-tier journals (200+ citations).
- ❖ Secured €100,000 in research funding and established collaborations with three research institutions, presenting findings at international conferences.

### Data Scientist and Software Engineer

10/2013 - 05/2018

**CABD** · Sevilla · Full time

- ❖ Applied machine learning, statistical and optimization algorithms in simulations to generate 3D models and predict protein and genome structures.
- ❖ Developed a novel open-source 3D modeling algorithm using AI techniques, adopted by 10+ international research projects, showcasing expertise in algorithm development and modeling.
- ❖ Led data analysis and software development in cross-functional teams, resulting in three first-author publications with a combined impact factor of 90+.
- ❖ Managed the High-Performance Computing (HPC) infrastructure at the university, providing technical support to 100+ users, optimizing computational workflows, and improving resource efficiency.

### Software and Web Developer

05/2011 - 08/2012

**Accenture** · Madrid · Full time

- ❖ Maintained and developed critical banking applications serving 100+ daily users with 99.9% uptime and compliance with IT security protocols.

## Projects

- ❖ **Satellite Picture Classification (Deep Learning):** Built a CNN model to classify satellite images. Deployed via Flask API, containerized with Docker, and used Python libraries like TensorFlow and Pandas.
- ❖ **Weather Prediction (Machine Learning):** Applied XGBoost model to predict daily rainfall. Deployed via Flask API, containerized with Docker, and hosted on the cloud with AWS Elastic Beanstalk.
- ❖ **Drought Prediction (MLOps):** Created an MLOps pipeline using XGBoost for drought prediction. Orchestrated with Prefect, Managed with MLflow, monitored via Prometheus/Grafana, containerized

with docker and automated with Docker. Ensured high code quality through unit/integration tests, linting, formatting, pre-commit hooks and a CI/CD pipeline. Streamlined execution with a Makefile.

- ❖ **Chemical Production Forecasting (Deep Learning):** Developed an LSTM model to forecast chemical production for a company, leveraging time-series data and deep learning techniques.

## Education

**Ph.D. in Bioinformatics** (2018), **MSc in Bioinformatics** (2012), **MSc in Computer Engineering** (2011), **BSc in Computer Engineering** (2009)

**Technical skills:** Python (Pandas, Scikit-learn, Matplotlib), SQL, Git, Docker, PyTorch, TensorFlow, AWS, Google Cloud, BigQuery, Deep Learning, MLops, Data Visualization, Pipeline Development, Big Data Processing, 3D Modeling, AI model deployment, Data Engineering, NLP, LLM.

**Soft Skills:** Cross-functional Team Leadership, AI Strategy Development and Implementation, Technical Teaching and Knowledge Transfer, Project Planning and Mentoring, Analytical Thinking and Problem Solving, Scientific Writing and International Presentation