Daniel Panizo

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PanoPepino

I am an analytical problem solver with 7+ years of experience in mathematical modelling, programming, and data analysis. I am at my peak when exploring unfamiliar questions, learning and developing new ideas, and turning uncertain information into structured, testable insights that support clear decisions.

My background in modelling complex systems has taught me to combine rigorous analysis with creativity and strategic thinking, always with a strong focus on validation and conceptual clarity. I also have extensive experience communicating complex ideas to different audiences through teaching, conference presentations, and technical writing.

I am currently seeking opportunities at Swedish companies in data science, quantitative research, or other analytical roles where complex problem solving, rigorous thinking, and model validation can support better decisions.

Core Strengths

Strategic thinking · Attention to detail · Pattern identification · Mathematical modelling · Systems thinking · Learning agility · Knowledge sharing · Tool building · Analytical reasoning · Model validation · Technical communication

Work Experience

Kyoto University, Japan
Postdoctoral Researcher *2024–2026*
Coordinated international collaborations to design analytical frameworks linking theoretical concepts with observable outcomes, enabling scientific investigation and model validation.

- Summarised 8+ years of field research into an accessible reference document, enabling pedagogical knowledge transfer across collaborative teams.
- Communicated complex findings to both specialist and non-specialist audiences through 20+ international conference presentations.

Uppsala University
PhD Researcher *2019–2024*
Managed long-term multidisciplinary projects in mathematical modelling, from problem framing to validation, while contributing to teaching and mentoring.

- Built rigorous mathematical frameworks for analytical and quantitative model validation, supporting robust evaluation of complex models.
- Mentored 3 thesis students and delivered 2 university-level quantitative subjects, helping students develop advanced problem-solving and critical thinking skills.

Selected Projects

Beanim – Mathematical animations ecosystem

- Open-source Python framework for interactive mathematical animations; deployed at 25+ international conferences.
- Modular, reusable design for complex visual explanations without slideware lock-in.

`# Python, open-source, data visualisation, mathematics, scientific communication`

dAIana – AI-Powered Job Application Automation

- Terminal CLI with LLM API pipeline to scrape job postings and compile tailored LaTeX documents end-to-end.
- Reduced application time by 70% via full automation and integrated per-career CSV tracker.

`# LLM API, CLI, web scraping, automation, NLP, Python, workflow automation, document generation`

PokeML – Predictive Modelling on Gaming Data

- End-to-end ML pipeline on 1K+ mixed categorical/numerical dataset with 10+ feature engineering steps.
- Cloud deployment via Hugging Face; full production-ready packaging.

`# ML pipeline, EDA, feature engineering, multi-model training, cloud deployment, data science`

Cosmo – Predictive Modelling & Parameter Estimation

- Built a parameter estimation framework linking theoretical models to observational data.
- Algorithm adopted by 10+ researchers; directly drove 5 peer-reviewed articles.

`# parameter estimation, predictive modelling, scientific computing, algorithm design, numerical methods, physics`

Mtga Data – Competitive Board Game Analytics Dashboard

- End-to-end data collection and analysis pipeline for competitive MTG Arena players using a twin repository architecture (collector + visualisation).
- Async Discord bot with multi-server deployment and a Python package for dashboarding across different competition datasets.

`# Python, asyncio, REST API, CSV, data pipeline, dashboard`

Technical Skills

- **Data Science:** Python (Pandas, NumPy, SciPy), Machine Learning (Scikit-learn, XGBoost), Deep Learning (TensorFlow, PyTorch), Feature Engineering, Predictive Modelling, Data Visualisation, EDA
- **Mathematics:** Algorithm development, Time Series Analysis, Linear Algebra, PDEs, Statistical Modelling, High-dimensional Analysis, PCA, Optimisation, Calculus
- **DevOps:** Git/GitHub, CI/CD, REST APIs, Python Packaging, CLI/API Development, LLM/Prompt Engineering, Bash, Agile
- **Scientific:** Mathematica, MATLAB, LaTeX, Jupyter
- **Physics:** Theoretical Physics, Quantum Physics, High-Energy Physics

Education

Uppsala University
PhD, Theoretical Physics — *2019–2024*

Uppsala University
MSc, Theoretical Physics — *2016–2019*

Universidad Complutense de Madrid, Spain
BSc Physics — *2011–2016*

Languages

Spanish (Native) · English (C2) · Swedish (B2/C1) · French (A2) · Japanese (N5)

Hobbies

Martial arts · Classical guitar · Reading · Painting · Strategy games