Panagiotis Zazos

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Summary

Data Scientist with a Master's degree in Data and Knowledge Management and hands-on experience in machine learning, data visualization, and full-stack development. Proficient in Python, PyTorch, and Ruby on Rails, with a track record of delivering projects in NLP, time-series analysis, and e-invoicing solutions. Seeking a challenging role to apply data-driven insights and develop innovative AI applications.

Technical Skills

Programming: Python, SQL, Ruby on Rails

AI / ML Frameworks: PyTorch, TensorFlow, Keras, Scikit-learn

Proficiencies: LLMs, Explainable AI (SHAP, LIME, GradCAM), LoRA

Libraries & Tools: Pandas, NumPy, Hugging Face, DeepEval, Git, Tableau, D3.js, Prodigy

Projects

Music Mood Classification and Recommendation API — Master's Thesis (Finalizing)
Deep Learning, MIR, Web API — *Python, PyTorch, LoRA*

- Developing a web API for music mood classification by fine-tuning a pre-trained ResNet-18 on the MTG-Jamendo dataset using LoRA adapters.
- Applying transfer learning on extracted embeddings to an MLP model for valence-arousal prediction based on Spotify's ground truth data.
- API delivers personalized music recommendations and offers interactive visualizations of acoustic features and emotion mappings.

Time-Series EEG Sleep Staging Classification — HORIZON European Project
Deep Learning, Time-Series, XAI — *Python, TensorFlow, GANs*

- Built a CNN-CNN framework to classify 5 sleep stages from EEG epochs, using a custom focal loss function to manage class imbalance.
- Engineered a Style-Transfer GAN in collaboration with NSCR'D' to transform EEG data, providing explainable insights into class-specific signal characteristics.

Palestinian Conflicts and Humanitarian Crisis Visualization — Personal Project
Data Visualization — *D3.js, Python, Plotly*

- Leveraged data from Humdata and other sources to develop visualizations including an annual map of conflict events, analysis of commodity prices, and examination of the water crisis.

Automated Pipeline for xAI-Driven Narrative Generation & Validation — LLM Project
Local Development — *Python, LLMs, PEFT, LoRA, DeepEval, SHAP*

- Engineered an xAI module to extract feature attributions (SHAP, Grad-CAM) from target models into structured JSON payloads.
- Developed a 'Narrator' LLM, fine-tuned with PEFT/LoRA, to transform xAI outputs into domain-specific, compliant natural language explanations.
- Implemented a 'Judge' LLM using DeepEval's GEval for automated validation of narrative quality against accuracy, safety, and actionability pillars.

Experience

Data Scientist & Research Associate Oct 2024 – Present
Four-Dot Infinity *Athens, GR*

- Acting as Task Leader for Explainability and Robustness within the EU-funded MANOLO project.
- Developed and implemented a comprehensive suite of xAI techniques (SHAP, LIME, GradCAM) and authored novel evaluation metrics (fidelity, surrogacy efficacy score) to validate model interpretability.
- Contribute significantly to the structuring and writing of European funding proposals, translating complex technical solutions into compelling, both technical and non-technical, narratives.
- Co-author academic papers based on project research, contributing to the dissemination of findings within the scientific community.

Software Developer Jun 2021 – May 2022 & Jun 2023 – Mar 2024
HQEngine *Melbourne, Australia (Remote)*

- Developed features for a start-up application, focusing on Sales & Spend eInvoicing and ePayments using Ruby on Rails, HTML, and CSS.
- Integrated XML document generation features catering to PEPPOL e-Invoicing standards for compliant digital transactions.
- Implemented robust validation mechanisms for Australian Business Numbers (ABNs) to ensure transaction legitimacy.
- Performed full-stack debugging to identify and resolve issues, ensuring seamless functionality and regulatory adherence.

IT on ERP Entersoft Business Suite Jul 2022 – May 2023
Hellenic Army *Athens, Vyronas, GR*

- During mandatory military service, utilized the ERP Entersoft Business Suite for the Special Army Unit Supply Center (EKEMS), managing the recording of invoices, product codes, and commercial transactions.

Informatics Intern Sep 2020 – Jan 2021
Elxis Group *Athens, Illisia, GR*

- Managed real-time tweet collection and filtering from the Twitter API based on earthquake events.
- Implemented tweet pre-processing and annotation using Prodigy to build a multi-class classification model for predicting earthquake intensity.

Education

National and Kapodistrian University of Athens Athens, GR
M.S. in Data and Knowledge Management *Sep 2023 – Sep 2025 (Expected)*

National and Kapodistrian University of Athens Athens, GR
B.S. in Informatics and Telecommunications *Jan 2015 – Sep 2021*

Languages & Interests

Languages: Greek (Native), English (Highly Proficient)

Interests: Cross-fit training, Bouldering, Hiking, Reading, Writing, Drawing, Music, Video Games