

Asandei Ștefan-Alexandru

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EDUCATION

École Polytechnique

Sep 2026 — Present

Bachelor of Science, Mathematics and Computer Science

PROJECTS AND PREPRINTS

Efficient JPEG Restoration in the Wavelet Domain via Mean Flows arxiv.org/abs/2608.28730

- Trained a **1-step** diffusion model on the DF2K and LSDIR datasets, focused on perceptual metrics
- Achieved an LPIPS of 0.1338 on LIVE-1 at QF20, with throughput up to **18.82 images/s** at HD resolution
- Conducted ablations on model architectures, flow objectives and JVP computation algorithms
- Quality–efficiency Pareto: perceptual metrics close to SOTA, while being **4.9× faster** than SODiff

Competitive AI Task Solutions

github.com/stefanasandei/roai-solved

- Collection of competitive AI tasks with notebooks and write-ups, covering CV, NLP, and tabular tasks
- Contests included: National Selection (Romania, Poland, etc.), International (IOAI, IAIO)
- Featured on the official IOAI website: ioai-official.org/resources

COMPETITIONS

European Olympiad in AI (EUROAI), Silver Medal

Romania, July 2026

- One of the 6 tasks required auditing a frozen **DistilBERT** sentiment classifier for token-level rationales to identify biases, which I solved with **Integrated Gradients**.
- Another task required identifying redundant parameters in a CNN model, which I solved by thresholding per-weight diagonal **Fisher information** scores to prune low-influence weights while preserving accuracy.

Nitro NLP Hackathon, 1st Place

International (Online), April 2026

- The task was to predict total reading time from eye-tracking data. The difficulty was in **out-of-distribution reliability**. My approach used a local validation pipeline, along with analyzing feature importance.
- For feature engineering, I combined **xlm-roberta-large** embeddings with linguistic features (word length, frequency, character-level statistics), for **XGBoost**.

International Olympiad in Artificial Intelligence (IOAI), Bronze Medal

Beijing, August 2025

- Placed in the **top 30%** globally among 284 competitors representing 61 countries
- Solved 6 tasks over 2 days spanning Computer Vision (CV) and Natural Language Processing (NLP).

National Olympiad of Digital Innovation, 1st Place & Gold Medal

Romania, August 2023

- Developed a real-time traffic navigation system utilizing a modular ML microservice architecture.
- Implemented a **YOLO**-based car detection system for live stream analysis, integrated with OpenStreetMap

VOLUNTEER WORK

AI Community Contest, Problem setter, Organizer

Sep 2025 — Present

- Organizing monthly contests, to help students better prepare for the international AI Olympiads
- Over 600 community members, from 40+ countries: aicc-official.org
- Relevant published tasks: [Find Brain Tumors](#) (Computer Vision, Self-Supervised Learning methods such as BYOL, FixMatch), [Watermark Removal](#) (Computer Vision, conditioned Flow Matching training)

European Olympiad in AI, Problem setter

January 2026

- Helped with task authoring and review for the 1st practice round
- My task: [Star Observatory](#) (Computer Vision, Teacher-Student Knowledge Distillation)

SKILLS

- **Deep Learning**: PyTorch, OpenCV, NumPy, Transformers, Diffusers, Weights & Biases, Hydra
- **Programming Languages**: Python, C++, CUDA, Bash
- **Technologies**: Docker, vLLM, PostgreSQL, Redis
- **Languages**: Romanian (Native), English (C2 Proficient)
- **Soft Skills**: Problem Solving, Collaboration, Adaptability, Leadership