

Tudor Andrei Dumitrascu *AI Engineer*

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SKILLS

AI/ML: DSPy, PyTorch, Scikit-Learn, NVIDIA Triton, NLP, CV, DL; **Backend:** Python, FastAPI, NestJS, Litestar, RESTful APIs; **Data:** Pandas, MongoDB, PostgreSQL, Redis, RabbitMQ, SurrealDB; **Frontend:** Typescript, Next.js, React, Remix, TailwindCSS; **Cloud/DevOps:** Docker, AWS, Azure, CI/CD, Prometheus, Grafana, Nix

WORK EXPERIENCE

Lead AI Engineer Jan 2023 — Present
Paradigm Research Bucharest, Romania

- Designed custom algorithms generating plausible trading scenarios from real-world market data
- Developed bias detection algorithms on synthetic population models for financial risk assessment
- Delivered efficient Named Entity Recognition and Sentiment Analysis solutions for financial text processing

Co-Founder & CTO Jun 2022 — Present
Pythia Sociodynamical Technologies Bucharest, Romania

- Architected NVIDIA Triton-based ML inference pipeline that processes 1,000+ news articles per second with <100ms latency, reducing infrastructure costs by 35%
- Engineered LLM & DSPy powered data extraction with pipeline with intelligent content hashing, increasing data extraction accuracy by >40% while reducing inference costs
- Built distributed news scraper with Scrapy and RabbitMQ that integrated 41+ sources in one week, processing 500K+ articles daily with 99.5% uptime
- Developed multi-tenant SaaS platform leveraging Next.js and SurrealDB for automated KYC/AML compliance workflows, serving multiple banks and crediting companies
- Designed RESTful API architecture with FastAPI, enabling seamless microservices integration and cross-platform data exchange
- Implemented Graph Database solution using SurrealDB, optimizing complex relationship queries and improving data retrieval performance by 60%
- Deployed comprehensive observability stack with Prometheus and Grafana, maintaining 99.9% system uptime across production environments

EDUCATION

University of Bucharest Bucharest, Romania
M.Sc. Artificial Intelligence 2020 — 2022

Julius Maximilian University of Würzburg Würzburg, Germany
Erasmus+, Artificial Intelligence 2021 — 2021

Polytechnics University of Bucharest Bucharest, Romania
B.Eng. Applied Electronics 2016 — 2020

Åbo Akademi University Turku, Finland
Erasmus+, Computer Science 2019 — 2020

RESEARCH

Patronizing and Condescending Language Detection, SemEval2022 Shared Task (ACL) ([Link](#)) Nov 2022 — Feb 2023

- Developed advanced BERT-based models for binary classification and multi-label multi-class text classification
- Implemented machine learning algorithms using bag-of-words models for patronizing language detection
- Published research addressing linguistic bias detection in natural language processing

Detecting Early Signs of Pathological Gambling using ML and DL models with dataset chunking, CLEF eRisk 2022 ([Link](#)) Nov 2021 — May 2022

- Applied machine learning and deep learning models with dataset chunking techniques
- Developed early warning systems for pathological gambling behavior detection