

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 Paradigm Research	Jan 2023 — Present <i>Bucharest, Romania</i>
<ul style="list-style-type: none">Designed custom algorithms generating plausible trading scenarios from real-world market dataDeveloped bias detection algorithms on synthetic population models for financial risk assessmentDelivered efficient Named Entity Recognition and Sentiment Analysis solutions for financial text processing	

Co-Founder & CTO Pythia Sociodynamical Technologies	Jun 2022 — Present <i>Bucharest, Romania</i>
<ul style="list-style-type: none">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 costsBuilt distributed news scraper with Scrapy and RabbitMQ that integrated 41+ sources in one week, processing 500K+ articles daily with 99.5% uptimeDeveloped multi-tenant SaaS platform leveraging Next.js and SurrealDB for automated KYC/AML compliance workflows, serving multiple banks and crediting companiesDesigned RESTful API architecture with FastAPI, enabling seamless microservices integration and cross-platform data exchangeImplemented 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 <i>M.Sc. Artificial Intelligence</i>	Bucharest, Romania 2020 — 2022
Julius Maximilian University of Würzburg <i>Erasmus+, Artificial Intelligence</i>	Würzburg, Germany 2021 — 2021
Polytechnics University of Bucharest <i>B.Eng. Applied Electronics</i>	Bucharest, Romania 2016 — 2020
Åbo Akademi University <i>Erasmus+, Computer Science</i>	Turku, Finland 2019 — 2020

RESEARCH

Patronizing and Condescending Language Detection, SemEval2022 Shared Task (ACL) (Link)	Nov 2022 — Feb 2023
<ul style="list-style-type: none">Developed advanced BERT-based models for binary classification and multi-label multi-class text classificationImplemented machine learning algorithms using bag-of-words models for patronizing language detectionPublished 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
<ul style="list-style-type: none">Applied machine learning and deep learning models with dataset chunking techniquesDeveloped early warning systems for pathological gambling behavior detection	