

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; **Languages:** Romanian, English, German

WORK EXPERIENCE

AI Engineer

Sep 2025 — Present

CogniSync

Bucharest, Romania

- Developed core platform feature that ingested complex legal playbooks and templates to create structured rule systems
- Engineered AI system capable of processing and understanding large legal documents, reducing manual review time
- Created document parsing engine that identifies and extracts placeholder items from templates
- Prototyped document-aware Q&A system using Retrieval-Augmented Generation (RAG) for legal queries
- Implemented and compared two RAG approaches: Google Vertex AI integration and custom system using Qdrant
- Applied modern LLM techniques including RAG and prompt engineering for legal domain applications

Co-Founder & CTO

Jun 2022 — Sep 2025

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

IT Administrator

Sep 2020 — Sep 2022

Cert Sud SRL

Bucharest, Romania

- Managing IT infrastructure
- Website Designer

Research & Development Intern

Jun 2019 — Aug 2019

Continental Powertrain Engineering

Timisoara, Romania

- CAN Bus programming with Arduino Uno

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

Academy+Plus
Coding Bootcamp

Bucharest, Romania
Sep 2018 — Jan 2019

Colegiul Național Bilingv "George Coșbuc"
Bacalaureate Diploma

Bucharest, Romania
Sep 2012 — Jul 2016

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

PROJECTS

Opticale.AI, Detection and Tracking system using AI Sep 2019 — Mar 2020

- Developed real-time boat detection and tracking system using computer vision and AI
- Successfully commercialized project through acquisition by maritime autonomous solutions company

CERTIFICATES

Deep Learning Specialization

DeepLearning.AI (2021)

Sequence Models

DeepLearning.AI (2021)

Convolutional Neural Networks

DeepLearning.AI (2020)

Improving Deep Neural Networks

DeepLearning.AI (2020)

Structuring Machine Learning Projects

DeepLearning.AI (2020)

Neural Networks and Deep Learning

DeepLearning.AI (2020)

Introduction to TensorFlow for AI

DeepLearning.AI (2019)

ORGANIZATIONS

Liga Studentilor Electronisti, Volunteer

2016 — 2019 | Bucharest, Romania

AWARDS

Bronze Medal, MobilPRO

17/03/2019

Fifth Place, 2NHack

02/11/2019

INTERESTS

Science-Fiction, Language Learning, Sports, Cardistry, Philosophy