

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*

Åbo Akademi University
Erasmus+, Computer Science

Turku, Finland
2019 — 2020

Academy+Plus
Coding Bootcamp

Bucharest, Romania
Sep 2018 — Jan 2019

Colegiul Național Bilingv "George Coșbuc"
Bacalaurate 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