Tsvetan R. Yordanov

Machine Learning Engineer | NLP | Applied Scientist | Healthcare AI

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Summary:

Machine Learning Engineer and Research Scientist with 7+ years of experience across healthcare AI, predictive modeling, recommender systems, cloud infrastructure, and DevOps. Proven record of delivering impactful ML-driven solutions in clinical informatics, publishing at leading venues (AIME, JCE). Skilled in bridging cutting-edge research and scalable technology deployment. Passionate about AI innovation in healthcare and beyond.

Skills:

Programming:

- Python, Java, JS, SQL, R

Frameworks & libraries:

- PyTorch, TensorFlow, Scikit-learn, Tomcat, Flask

Cloud & DevOps:

- AWS, Azure, Docker, Kubernetes, UNIX

Tools:

- Git, Airflow, NoSQL database

Data & ML:

- EHR Data Modeling, Recommender Systems, Privacy-Preserving ML, Deep Learning, NLP

Methodologies:

- Agile(Scrum/Kanban), Six Sigma (6SIGMA), Explainable AI (XAI)

Experience:

PhD Researcher

Amsterdam UMC | Oct 2021 – Present

Key Skills: Clinical AI, Biostatistics, NLP, EHR Systems, Python, R

- Designed a framework for evaluating clinical predictions models developed on multicenter data, and demonstrated its usefulness to uncover a wide variability in a model's performance between Dutch hospitals.

- Developed recommender systems to automate electronic health record (EHR) data entry, improving on the best baseline by 30%.

- Led a team initiative exploring privacy-preserving AI models (federated learning) across multiple hospital centers.

Software Engineer

Amsterdam UMC | Oct 2021 – Present

Key Skills: Java, Cloud Infrastructure, EHR Systems, Big Data

- Designed and implemented a middleware rule-based engine and physician-facing web portal for clinical decision support.

- Collected stakeholder requirements and collaborated with hospital clinicians, boosting clinical data quality

- Supported the development of secure and scalable big data pipelines for national-level cardiology registries

DevOps Engineer

Flowable-Mimacom | Nov 2018– Aug 2019

Key Skills: DevOps, Microservices, Cloud Computing, ETL Pipelines

- Built and maintained ETL pipelines for big data ingestion across microservices architectures.

- Implemented system monitoring and messaging tools (ELK stack, Kafka), improving incident detection rates.

Contributed to cloud-native projects ensuring high scalability and availability on AWS.

Technology Analyst

JPMorgan Chase & Co. | Sep 2015 – Nov 2018

Key Skills: Agile, Big Data, Cybersecurity, Forecasting framework

- Delivered backend solutions for Asset Management, Reference Data, and Investment Banking divisions.

- Spearheaded internal tech initiatives (hackathons, workshops) and mentored 10+ junior analysts.

- Participated in cybersecurity-focused projects ensuring compliance with global regulatory standards.

DevOps Engineer

Formedix | May 2013 – Aug 2015

Key Skills: Cloud Engineering, Clinical Trial Informatics, Continuous Integration (CI)

- Developed automation software for clinical trial registration adhering to US FDA and Japanese PMDA standards.

- Set up and managed a cloud-agnostic continuous integration infrastructure (Docker, Jenkins) to streamline product releases.

Education:

University of Amsterdam

MSc Medical Informatics | Sep 2019 – Aug 2021

Grade: 8.56/10 (equivalent to 4.0 GPA)
Thesis: "Performance of a Multicenter TAVI Mortality Prediction Model"
Supervisor: Prof. Ameen Abu-Hanna

University of Glasgow

BSc Computing Science | Sep 2011 – June 2015

Grade A3 (equivalent to 4.0 GPA)
Thesis: "Performance of a Multicenter TAVI Mortality Prediction Model"

Research Outputs:

Medication recommender system for ICU patients using autoencoders
- Presenting at MIE25 (May 2025)

Performance of federated learning-based models in the Dutch TAVI population was comparable to central strategies and outperformed local strategies
- Frontiers of Cardiovascular Medicine (2024)

Using Autoencoders for predicting clinical codes in EHR records for ICU patients
- Presented at AIME23 (June 2023)

Temporal validation of 30-day mortality prediction models for transcatheter aortic valve implantation using statistical process control – An observational study in a national population
- Published in Heliyon (2023)

An integrated approach to geographic validation helped scrutinize prediction model performance and its variability
- Published in Journal of Clinical Epidemiology (2023)

An interactive interface for visualizing events on Twitter
- Presented at SIGIR (2014)