Stefan Seman

ML Engineer | Data Scientist | PhD Researcher

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PROFESSIONAL SUMMARY

ML Engineer, Data Scientist, and PhD Researcher with a strong background in higher education and published research. Specialize in machine learning, AI, generative AI, and software development, with unique expertise bridging data science and biomedicine. Analytical thinker with a pragmatic problem-solving approach and excellent communication skills.

TECHNICAL SKILLS

Languages
Python, SQL, Bash, LabVIEW

Frameworks
FastAPI, Flask, PyTorch, PySpark, LangChain, LlamaIndex, Transformers

AWS Cloud
Lambda, S3, ECS, EC2, Step Functions, Bedrock

Azure Cloud
Data Factory, Synapse, DevOps, Functions, Azure Search, Azure OpenAI, Data Lake, Databricks

Databases
DynamoDB, PostgreSQL, Redis, Pinecone, Milvus, PgVector

Tools
Docker, Git, Grafana, Jenkins

PROFESSIONAL EXPERIENCE

Senior Machine Learning Engineer & Software Engineer
Oct 2024 - Present
404 Solutions

- Main AI Engineer for critical infrastructure and core systems
- Owned document intelligence services and cloud APIs
- Built serverless workflows for high-volume data processing

Senior Data Scientist & Software Engineer in AI, R&D
Oct 2023 - Sept 2024
Publicis Sapient

- Led development from POC to fully production-grade systems
- Built enterprise RAG systems with retrieval optimization
- Delivered client-facing solutions and technical propositions

Data Scientist & Developer -> Senior Specialist
May 2022 - Oct 2023
Valcon Netherlands

- Led and mentored a team of 6 engineers
- Owned design of document processing microservices
- Built data extraction and document classification services from scratch

Data Scientist
Optimal Systems GmbH

Oct 2021 - Apr 2022

- Systematic model evaluation and hyperparameter tuning for ML classification
- Data-driven insights and testing/validation of ML systems

Researcher
BioIRC - Bioengineering R&D Center

Mar 2020 - Mar 2022

- Built components for EU Horizon 2020 computational platform (SILICOFCM)
- ECG, CPET, and biomedical data processing; peer-reviewed publications

PhD Researcher
University of Belgrade

Oct 2018 - Mar 2022

- Developed research methodology and statistical frameworks
- Applied machine learning to biomedical datasets; published papers internationally

Sports Scientist
Sport and Recreation Center Obliqus

Oct 2014 - July 2018

- Built algorithms for signal processing and data collection
- Functional testing and performance analysis for athletes

KEY PROJECTS

AI Document Summarizer

RAG-based summarization with LLMs

Python, AWS, RAG

AI-Code Copilot

Enterprise AI for internal knowledge

Python, Redis, RAG

Document Chatbot

Enterprise chatbot with RAG

Python, FastAPI, Azure Search

Document Extractor

Deep learning for text extraction

Python, Azure Data Factory, Synapse

Large-Scale ETL

Serverless data pipelines

Python, AWS Lambda, Step Functions

SILICOFCM (EU H2020)

Clinical trials platform

Python, PyTorch, Data Analysis

Doc Classification

ML-based categorization

Python, Docker, Azure

Data Extraction Service

ETL with Power BI integration

Python, FastAPI, Azure Data Factory

Voice Support Chatbot

Speech-to-text telephony AI

Python, Docker, Azure LUIS

SELECTED PUBLICATIONS (10+ TOTAL, 100+ CITATIONS)

A Machine Learning Approach to Gene Expression in Hypertrophic Cardiomyopathy
Pavic, J., Zivanovic, M.N., Seman, S., et al.
Pharmaceuticals (MDPI), 2024

Ventilatory Efficiency Parameters Outperform Peak VO2 in Monitoring Therapy Effects in HCM
Seman, S., Tesic, M., Popovic, D., et al. (SILICOFCM Investigators)
European Heart Journal, Vol. 45, 2024

Defining the Importance of Stress Reduction in Managing Cardiovascular Disease
Popovic, D., Bjelobrk, M., Tesic, M., Seman, S., et al.
Progress in Cardiovascular Diseases, Vol. 70, 2022 (60+ citations)

Physical activity and exercise as an essential medical strategy for COVID-19 and beyond
Seman, S., Srzentic Drazilov, S., et al. (HL-PIVOT Network)
Experimental Biology and Medicine, Vol. 246, 2021

EDUCATION

PHD CANDIDATE
Sport Science

University of Belgrade
2018 - Present

MASTER'S DEGREE
Sports Medicine

University of Novi Sad

BACHELOR'S DEGREE
Sport Science

University of Belgrade

CERTIFICATIONS

✓ Microsoft Azure AI Associate

✓ Databricks Lakehouse Fundamentals

✓ Johns Hopkins COVID-19 Contact Tracing

✓ Microsoft Azure Data Fundamentals

✓ Databricks Generative AI Fundamentals

Languages: Serbian (Native)   English (Fluent)

Member: ACSM   SEBM