STEFAN-TEODOR VISINESCU

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SUMMARY

Soon-to-be MSc graduate in Cancer Genomics and Data Science at the Barts Cancer Institute, with a strong background in Computer Science, full-stack software development, and AI-driven biomedical research. Experienced in designing and implementing scalable software systems, integrating machine learning models into real-world health platforms, and working with multi-modal biomedical data. My projects span mobile and web application development, predictive analytics, and digital biomarker research, with a focus on translational impact in healthcare. From 4 September 2025, I will be based in Switzerland.

EDUCATION

Master's in Cancer Genomics and Data Science **September 2024 to September 2025**
Queen Mary University of London, London, UK

- First-Semester Average: 83% (High Distinction)

Dissertation: Modelling the Evolutionary Dynamics of ecDNA Micronuclei in Cancer

- Developed stochastic and agent-based models of ecDNA dynamics, simulating inheritance, micronucleation, and drug response.
- Integrated real-world datasets for model calibration, executed on HPC infrastructure.

Key Modules:

- R and Python Programming in Biomedical Research: Achieved 95/100 in R programming and 90/100 in Python programming. Focused on statistical modelling, data visualisation, and predictive analytics.
- Machine Learning/AI and Application to Biomedical Research – Applied supervised, unsupervised, and deep learning to biomedical datasets, including explainable AI (SHAP) approaches.
- Single Cell Analytics – Analysed high-dimensional single-cell data using Seurat and Scanpy.
- Computational Genomics, Transcriptomics and Evolution – Applied HPC pipelines to large-scale RNA-seq datasets.
- Mathematical Modelling – Developed differential equation and stochastic models for tumour growth and treatment response.

Bachelor's in Computer Science **September 2020 to August 2024**
London South Bank University, London, UK

- Dissertation: Developed a federated learning platform for smart farming, focusing on data privacy, distributed model training, and predictive analytics.
- Relevant Modules: Data Mining and Big Data Analytics, Smart Internet Technologies, Object-Oriented Programming, Software Engineering.

PROFFESSIONAL EXPERIENCE

Bioinformatician & Lead Developer – E-OncoHub **Jan 2024 - Present**
E-OncoHub / DataMedHub – Remote / London

- Designed and deployed scalable NLP pipelines using Dockerised microservices, REST APIs, and PyTorch for a cancer analytics platform.
- Built and integrated custom LLaMA 3 models on Azure for vector-based retrieval in medical text search.
- Developed machine learning workflows for biomarker extraction, explainable AI, and federated learning.
- Led development of the platform's front-end in React integrated with a Spring backend, designed as a native application adaptable for both web and mobile use.
- Collaborated in an agile team using Jira to manage deployments and infrastructure.
- https://eoncohub.com/

Research Assistant – King's College London, London, UK **Summer 2022**

- Conducted statistical analyses in Python on large-scale biological datasets for ageing research.
- Developed optimised pipelines for biomarker validation and collaborated with postdoctoral researchers.

Coordinator(President) – LSRS UK **June 2022 - September 2024**

- Led a 20+ member volunteer organisation, coordinating academic and cultural events in collaboration with the Romanian Embassy.

TECHNICAL SKILLS

Software Development & Engineering

- Languages & Frameworks: Python, R, JavaScript (React, Node.js, Express), Java, C++, SQL, HTML/CSS
- Full-Stack Development: MERN stack (MongoDB, Express, React, Node), Spring Boot, REST API design and integration
- Mobile & Web Applications: Native and responsive app development (React Native concepts, PWA compatibility)
- Cloud & DevOps: Azure, Docker, Git, CI/CD pipelines, containerised microservices, HPC job scheduling and parallelisation

Machine Learning & Data Science

- Supervised & Unsupervised Learning: Random Forests, SVM, Clustering, PCA
- Deep Learning: CNNs (Keras/TensorFlow, PyTorch), Transformers, Explainable AI (SHAP)
- Data Processing & Analysis: Pandas, NumPy, Scikit-learn, Bioconductor, Galaxy
- Predictive Modelling: Time-series, classification, regression, anomaly detection

Biomedical & Health Informatics

- Genomic Data Analysis: RNA-seq, ATAC-seq, ChIP-seq, variant calling, pathway enrichment
- Data Integration: Multi-modal biomedical data pipelines, federated learning frameworks
- Digital Biomarkers & Health Apps: Integration of wearable/device data, passive sensing, and AI/ML analytics

File Formats

- File Types: FASTQ, BAM, VCF, TSV, JSON, H5AD, RDS

VOLUNTEERING

- Volunteered as a teacher, instructing individuals over 50 years old from South America in basic computer skills; sessions were conducted primarily in Spanish due to limited English proficiency among participants
- Participated in the Grow Program, developing self-improvement skills, writing projects, and organising theatre workshops for children aged 3 to 7 years
- Assisted in developing and delivering educational workshops during volunteer projects
- Supported peers and junior students in academic and technical areas, fostering their growth and confidence
- Erasmus+ Program Participant: Contributed to workshops promoting social inclusion and education
- Focșani Blues Festival Volunteer: Supported event organisation and worked with children in creative activities

RESEARCH PROJECTS

- AI-Powered Cancer Biomarker Discovery – Developed genomic data integration and analysis tools for personalised oncology.
- Federated Learning for Smart Farming – Built privacy-preserving ML models with predictive analytics for agriculture.
- ecDNA Evolution Modelling – Created stochastic simulations for extrachromosomal DNA inheritance and dynamics.

LANGUAGES

- English **C2**
- Romanian **C2(Native)**
- French **B1**
- Japanese **A2**