Dany Mukesha

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EDUCATION

Université Côte d'Azur — Nice, France
Ph.D, Bioinformatics — *Sept. 2023 – July 2026 (Expected)*

University of Rome Tor Vergata — Rome, Italy
MSc, Bioinformatics — *March 2020 – July 2023*

Sapienza Università di Roma — Rome, Italy
BSc, Bioinformatics — *Nov. 2016 – Oct. 2019*

SKILLS

- **Programming Languages**: Python, R, C++, Java, Bash, SQL
- **Bioinformatics**: Genomics, transcriptomics, metabolomics, proteomics, single-cell analysis
- **Machine Learning (ML)**: Regression, clustering, neural networks, Gaussian processes, feature selection, PCA/ICA, random forests, Bayesian methods, cross-validation
- **Tools & Platforms**: Nextflow, Snakemake, Docker, Kubernetes, Git, HPC (Slurm/PBS), Linux, AWS, Azure
- **Databases**: PostgreSQL, MySQL, Oracle, MongoDB
- **Languages (Spoken)**: English, Italian, French

EXPERIENCE

Université Côte d'Azur — Nice, France
PhD Researcher — *Sept. 2023 – Present*
- **Alzheimer's Disease Biomarkers**: Implement ML models integrating serum metabolomics, MRI, PET, and genetic data for early AD detection using large-scale cohorts (such as ADNI: NCT00106899; NCT01078636; NCT01231971; etc.)
- **Multi-omics Integration**: Built pipeline for analyzing metabolomic and genomic data with 90%+ classification accuracy for differential diagnosis between AD and Lewy body dementia

Accenture Spa - Catenate Group — Rome, Italy
Software Engineer — *Jan. 2021 – Sept. 2023*
- **Full-Stack Development**: Built Java microservices and Angular/React frontend applications for enterprise clients
- **DevOps**: Implemented CI/CD pipelines with Jenkins, Docker, Kubernetes; managed LDAP and network configurations

Policlinico Agostino Gemelli IRCCS — Rome, Italy
Bioinformatician — *July 2020 – Dec. 2020*
- **Transcriptomic Profiling**: Analyzed RNA-seq data from ependymoma tumors; results published in International Journal of Molecular Sciences

INTERNATIONAL EXPERIENCE

Wayne State University — Detroit, MI, USA (Remote)
Bioinformatician — *March 2022 – Sept. 2023*
- **Toxicogenomics**: Performed gene expression (RNA-seq) analysis of environmental toxins on cardiovascular health

The University of Manchester — Manchester, UK (Remote)
Bioinformatician — *Dec. 2020 – Aug. 2021*
- **Epigenetics & GWAS**: Integrated epigenetic data with GWAS to map Rheumatoid Arthritis risk loci, identifying novel regulatory variants

SELECTED PUBLICATIONS

- **Journal Article**: Mukesha D, Firat H, Sacco G. Integrating large-scale serum metabolomics and APOE $\varepsilon4$ genotype for non-invasive Alzheimer's detection. *medRxiv*. 2025; DOI: 10.64898/2025.12.29.25343146
- **Journal Article**: Mukesha D, Sarter M, Dubray M, et al. Targeted serum metabolomic profiling and machine learning in Alzheimer's disease using ADDIA cohort. *J Alzheimers Dis*. 2025; DOI: 10.1177/13872877251378653
- **Conference**: Mukesha D, et al. Metabolomic signatures and ML models for distinguishing AD and dementia with Lewy bodies. *AAIC*. 2025; DOI: 10.1002/alz70863_110610
- **Book**: Mukesha D. *R for Proteomics*: From QC to functional analysis. 2025. Online
- **Software**: Mukesha D. Scalable Genetic Algorithm Framework for High-Throughput Genomic Data. Zenodo. 2024

CONFERENCES & AWARDS

- **AD/PD 2026**: Talk: Biofluid biomarkers differentiating Alzheimer's from Lewy body dementia. Copenhagen, Denmark
- **AAIC 2025**: Poster presentation. Toronto, Canada
- **AD/PD 2025**: Poster presentation. Vienna, Austria
- **Marie Curie PhD Scholarship**: EU Horizon 2020 (2023–2026)
- **LazioDisco Scholarship**: Academic merit scholarship (2016–2022)