

Dany Mukesha

Portfolio: danymukesha.github.io

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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
Masters Degree of Science, Bioinformatics March 2020 – July 2023
- **Sapienza Università di Roma** Rome, Italy
Bachelors Degree of Science, 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 COLLABORATIONS AND INTERNSHIPS

- **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 ϵ 4 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)