

Dany Mukesha

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EDUCATION

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| • Université Côte d'Azur | Nice, France |
| • <i>Ph.D, Bioinformatics</i> | <i>Sept. 2023 – July 2026 (Expected)</i> |
| • University of Rome Tor Vergata | Rome, Italy |
| • <i>Masters Degree of Science, Bioinformatics</i> | <i>March 2020 – July 2023</i> |
| • Sapienza Università di Roma | Rome, Italy |
| • <i>Bachelors Degree of Science, Bioinformatics</i> | <i>Nov. 2016 – Oct. 2019</i> |

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

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| • Université Côte d'Azur | Nice, France |
| • <i>PhD Researcher</i> | <i>Sept. 2023 – Present</i> |
| ◦ 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 |
| • <i>Software Engineer</i> | <i>Jan. 2021 – Sept. 2023</i> |
| ◦ 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 |
| • <i>Bioinformatician</i> | <i>July 2020 – Dec. 2020</i> |
| ◦ Transcriptomic Profiling: Analyzed RNA-seq data from ependymoma tumors; results published in International Journal of Molecular Sciences | |

INTERNATIONAL COLLABORATIONS AND INTERNSHIPS

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| • Wayne State University | Detroit, MI, USA (Remote) |
| • <i>Bioinformatician</i> | <i>March 2022 – Sept. 2023</i> |
| ◦ Toxicogenomics: Performed gene expression (RNA-seq) analysis of environmental toxins on cardiovascular health | |
| • The University of Manchester | Manchester, UK (Remote) |
| • <i>Bioinformatician</i> | <i>Dec. 2020 – Aug. 2021</i> |
| ◦ 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 ε4 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)