



Amarnath K R

Affiliate, Genetics

Bio

BIO

Amarnath K R is a computational scientist and deep learning engineer driving breakthroughs in biomedical AI specializing in the fusion of multi-omics data, deep learning, and clinical statistics to tackle some of medicine's most complex challenges. His current work at Stanford University's Department of Genetics focuses on developing a deep learning framework for cross-modal cell type label transfer by aligning single-cell RNA-seq and proteomics data in a shared latent space. Using autoencoders and a joint contrastive-based training, he achieves highly reliable annotation of unlabeled proteomics cells with RNA-derived ground truth. This work enables accurate integration of transcriptomic and proteomic modalities for downstream biological discovery and holds promise for expanding cell atlases.

What sets Amarnath apart is his commitment to both technical excellence and translational impact. From designing novel transformer architectures for histopathology and image inpainting, to developing AI-powered tools for emergency departments in India, his work is grounded in real-world deployment and global health relevance. His projects span continents and disciplines like, from integrating multi-omics datasets to uncover disease mechanisms and predict therapeutic response, to an acoustic classifier for biodiversity, to decoding brain function through neuroinformatics.

With multiple publications, international collaborations, and an unwavering drive to innovate, he represents a new generation of computational scientists shaping the future of personalized, data-driven medicine.