

**Sijia Cui**

460W. Doran St. APT220

Glendale,91203,Califonia,USA

cuisijia@gmail.com

+1 832-433-2050

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Dear Hiring Manager,

I am writing to express my interest in the Senior Bioinformatician position at Fred Hutchinson Cancer Center. With my extensive background in bioinformatics, multi-omics analysis, and deep learning, I am confident in my ability to contribute significantly to your team and support the innovative research at the Immunotherapy Integrated Research Center (IIRC) and Fong Lab.

In my current role as a Bioinformatics Project Scientist at Cedars Sinai Medical Center, I have led pioneering studies in spatial single-cell analysis and multi-omics data integration. My experience includes utilizing advanced techniques such as Variational Autoencoders (VAE), Graph Convolutional Networks (GCN), and Transformer-based models to analyze complex biological datasets. For instance, I employed a modified VAE model for label transfer in single-cell data analysis of Inflammatory Bowel Disease (IBD), significantly advancing our understanding of key cell subpopulations and important genes associated with various IBD phenotypes. Additionally, my work on integrating single-cell and bulk RNA sequencing data has provided groundbreaking insights into cellular heterogeneity and disease mechanisms.

My technical proficiency extends to a solid foundation in Python and R, with practical experience in Pytorch and TensorFlow, enabling me to develop and apply complex models to biological data. I have a robust track record of contribution to peer-reviewed publications, such as my first-author paper in Nature Communications on the evolution of esophageal squamous cell carcinoma through multi-omics sequencing. My ability to effectively communicate complex bioinformatics concepts to non-specialists and collaborate with diverse research teams aligns perfectly with the responsibilities outlined in the job description.

I am particularly drawn to Fred Hutchinson Cancer Center because of your commitment to groundbreaking research and patient care in cancer and infectious diseases. Your values of collaboration, innovation, and inclusion resonate with my own professional ethos. I am eager to contribute to your mission of discovering new cures and making life beyond cancer a reality.

I am excited about the opportunity to bring my expertise in spatial biology, single-cell analysis, and multi-omics integration to Fred Hutch. I am confident that my skills and experiences make me a strong fit for this position, and I am enthusiastic about the prospect of contributing to your team's efforts in advancing cancer research and treatment.

Thank you for considering my application. I look forward to the opportunity to discuss how my background, skills, and experiences align with the needs of Fred Hutchinson Cancer Center.

Sincerely,

Sijia Cui

