

# Atul Phadke

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[Hiring Manager Name]

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Hiring Manager, [Company Name]

[Job Title]

**Dear [Hiring Manager Name],**

I am writing to express my interest in the [Position Title] position at [Company Name], as advertised on [Job Board or Company Website]. I am a Computer Science and Behavioral Neuroscience major at Northeastern University with experience building AI-driven biomedical software, full-stack applications, and advanced analysis pipelines. My background intersects biotechnology and computer science, aligning closely with [Company Name]'s mission to [mention company focus or goal briefly].

During my internship at Mass General Hospital's Gene and Cell Therapy Institute, I engineered CAP-GENIE, a multi-platform sequencing analysis suite built with Python, C++, and AWS. This system incorporated optimized Cython modules and multithreaded computation capable of processing over 2 million reads per second, reducing runtime by 40%. I also developed an AI/ML protein motif analysis pipeline using PyTorch and scikit-learn that achieved 95% accuracy in detecting functionally relevant motifs.

During my internship at Northeastern University's Center for Translational Neuroimaging, I led the development of neuroimaging pipelines and a cloud-based Flask web app for DTI, fMRI, and QUTE-CE data processing, improving runtime and analysis time by 92%. These experiences strengthened my technical foundation and my ability to deliver reliable, scalable solutions that accelerate research and discovery.

I am eager to contribute my computational and analytical skills to [Company Name], where I can help develop cutting-edge solutions in [briefly describe company's focus area or project type]. Thank you for your time and consideration. I look forward to the possibility of speaking with you.

Sincerely,

**Atul Phadke**