



10 Oct 2025

Subject: Letter of support for Sohum Guha

To whom it may concern:

I am happy to provide Sohum Guha with the strongest recommendation. I first met Sohum in the summer of 2025 when he approached me out of his own interest in the intersection of computer science and neuroscience. Unlike most undergraduates at this stage, Sohum already had strong quantitative and computational training from his background in computer science, coupled with a deep curiosity about biological systems. Thus, I was especially excited to have him join my group.

In my lab we collect terabytes of multimodal data, including behavioral logs, neural recordings, and dual-eye tracking videos. Sohum took on the challenge of designing and deploying a fully automated pipeline in MATLAB to handle the storage and backup, and the result has greatly improved the way my lab processes and analyzes data. His system incorporated incremental extraction, synchronization algorithms to align desynchronized video and behavioral streams, and robust error recovery, allowing it to run reliably. By eliminating redundancy and automating performance evaluation, Sohum reduced analysis time significantly. It automatically produced standardized performance reports, including psychometric curves, d-prime sensitivity measures, and spatial heatmaps that gave the lab immediate insights into each experimental session. In addition, Sohum developed an OpenCV-based GUI for intuitive video preprocessing, such as cropping and alignment of eye-tracking videos, which improved efficiency for other trainees. Together, these contributions turned a fragmented manual workflow into a streamlined infrastructure that will serve us for years.

In addition to Sohum's technical sophistication, he also showed strong independence along with a very pleasant character. He collaborated easily with other lab members and communicated his ideas clearly. In summary, I strongly feel Sohum will be a positive addition to any group he joins. He brings a rare combination of quantitative training in computer science and a deep interest in its application in biology. I recommend Sohum without reservation.

Sincerely,

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