

Michael Magruder
Volunteer Mentor in Computer Science
Cedarcrest High School

November 12th, 2024

To Whom It May Concern,

I am pleased to recommend Joseph Soroka for admission to XXX.

I am a retired software engineer with over 30 years of experience, most recently at Microsoft and Facebook. I have been a volunteer mentor in the Intro, Advanced, and AP CS courses at Cedarcrest High School for the past seven years.

I have worked with Joseph for two years. He stands out as one of the most exceptional students I have ever worked with.

He is incredibly curious and goes well beyond every initial assignment. He wants to go beyond getting things to simply work; he wants to understand, as deeply as he can, why they work. Every time I suggested an additional area for him to explore he did so, and he went far, far further than I would have imagined. I have gotten used to being surprised by him.

His enthusiasm for the subject is also infectious. His presence in the classroom has been a clear motivator for the other students, and he is always happy to help his peers. Although he is in Running Start his senior year, he has returned to the classroom as a student mentor.

When he was exposed to assembly language – a low-level language which requires a deep understanding of computer architecture – he took it upon himself to buy a book and start learning it in addition to his regular assignments. He sought advice on how to improve and understand the subject more fully, and then he asked his teacher for permission to redo all of the Intro to Programming assignments in assembly, just so he could better learn the subject. He completed them all.

Likewise, when exposed to GPUs and SIMD parallel processing, extremely advanced subjects at the heart of the current AI revolution, he studied everything he could find on the subjects. He asked for more guidance every week and looked for how he could apply these concepts to his current assignments, or sought new projects where he could study these more deeply.

Joseph's work on neural networks has been outstanding and is an excellent example of his work ethic and character. We started him with the classic problem of recognizing handwritten digits and he diligently improved his implementation until he achieved results comparable to industry standards. This is a very difficult project for a high school student, and he had many expected setbacks which he pushed through tirelessly. Then he went further, on both neural

network theory and optimizing the implementation. He sought more guidance on how to improve both, and applied his recent learning in SIMD and GPUs to improve his networks repeatedly.

Finally, Joseph takes feedback very well. Whether it's about his overall approach or details of his code, he's open and receptive to suggestions. This is a testament to his humility and dedication to his personal and professional growth.

It has been my great pleasure to work with Joseph these past few years, and I give him my highest possible recommendation. His love for computer science is clear, and I have no doubt that he will excel in your computer science program and contribute positively to the academic community.

If you need more information or specific examples, please don't hesitate to contact me directly via phone or email. I would be happy to discuss further why Joseph would be an excellent fit for your program.

Sincerely,

Michael Magruder

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