



DEEP LEARNING

Research Case Study

Every day, hundreds of faculty, staff, and students at The Colorado Center for Astrodynamics Research (CCAR) rely on powerful machines for projects such as atmospheric research and asteroid missions. Steve Hart, IT Professional for CCAR at the University of Colorado Boulder, shares why he trusts System76 computers to save him hours when connecting machine learning researchers with reliable hardware.

"I provide complete on-site IT support for all Faculty within CCAR, including Desktop support, Server support, data storage, and any other IT services," Steve explains as he introduces himself. "This includes hardware purchasing and configuration to fit the specific research needs of the user in question."

Supporting such a breadth of work means relying on a mix of technologies and providers to find the best fit for each project. He previously built his own systems (and still does as-needed), but an option for relief came when he found System76, a Linux computer company.

"I first started purchasing System76 desktops as the hardware specs matched what I choose for a custom build and the overall price was comparable. It saved me time in choosing individual parts and system assembly. I was able to deploy systems quicker to my users."

Speed is key as he supports prolific researchers operating under strict grant requirements. Earlier this year after winning a major grant, a researcher at CCAR's Space Weather Center came to Steve needing equipment for heavy computational workloads, including machine learning.

They considered cost, performance, procurement guidelines, and regulatory compliance and decided on a high-performance desktop from System76. The deep learning work utilized the powerful TensorFlow software library on Linux to analyze atmospheric weather patterns.

"Working with pre-installed Linux helps in that it takes me less time hand-picking hardware that may or may not be fully compatible with the latest Linux kernels," Steve notes.

These efficiencies save hours of time compared to the hardware selection and build time required when building the computers himself, and avoids the potential for additional delays waiting on individual parts. When the pre-installed Linux equipment arrives, it is ready for deployment out of the box.

System76 combines ease of using Linux with high-end performance for heavy computational workloads, including laptops, desktops, and servers.

"Desktops are vital. They are the workhorse for numerical analysis. Many users have tried to move their processing needs to laptops but more often than not, they always fall back on the desktops and servers for their speed and ability to process complex code/datasets."

System76 has users at 97% of the Tier 1 Research Universities in the United States with hardware, software, and service that meet rigorous research standards. System76 might be a good fit for you too. Connect with an expert today to learn more about System76's Linux laptops, desktops, and servers: <https://system76.com/contact>