# Waste Sorting Challenge: Can You Make UVA More Sustainable?

You're standing in front of three bins — one for recyclables, one for compost, and one for landfill waste. In your hands is a lunch tray with a paper cup, a plastic fork, and a greasy pizza box. People behind you are waiting. Do you know which items go where?

You're not alone. Every day, millions of Americans face this exact challenge. Despite the presence of recycling bins in public spaces, workplaces, and homes, an alarming **85% of plastic waste in the U.S. ends up in landfills.** Even with clear signage, waste often ends up in the wrong bin — and once it does, it's too late to fix. Misplaced waste increases disposal costs, contaminates recyclable materials, and reduces the overall efficiency of recycling facilities. These issues undermine efforts to improve sustainability, presenting a critical opportunity for innovation and change. However, what if there was a better way to determine recycling?

## Your Role: Waste Sorting Innovator

Imagine you're a sustainability strategist hired to improve UVA's waste-sorting system. You've been tasked with finding innovative, data-driven solutions to reduce sorting errors and increase proper recycling rates on campus. Your goal is to create a solution that's practical, impactful, and scalable. You're not just a student in this project — you're the one in the driver's seat. Your decisions could influence how waste is managed at UVA for years to come.

## The Challenge and Your Deliverable

You must develop a machine learning model to improve waste sorting accuracy in the United States. This model should leverage image data, machine learning, and a strong desire for sustainability to accurately classify recyclable and non-recyclable materials. By addressing the issue of waste misplacement, your work could play a vital role in reducing landfill dependency and enhancing the overall efficiency of the U.S. recycling system.

## Your Mission Begins Now

The future of waste management, not just at UVA, but in the United States is in your hands now. Will you develop a machine learning model that makes sorting mistakes a thing of the past? It's time to step up, think big, and transform the way waste is managed on a national scale. The country and the hoos are counting on you.