

# Case Study Hook Document: ASL Digit Recognition

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Welcome to your case study challenge! Imagine you're part of a tech-for-good startup working to improve communication tools for the Deaf and Hard-of-Hearing community. Your team has been tasked with building a prototype that can recognize American Sign Language (ASL) digits (0–9) from hand sign images. Your mission is to turn a dataset of ASL hand sign images into a working machine learning model.

Why is this important? Millions of people rely on sign language every day, but real-time recognition tools are still limited. By creating a system that can interpret digit signs, you're taking the first step toward bridging communication gaps and making technology more inclusive.

Your mission: Build a model that can predict ASL digit signs from static images. You'll train, test, and evaluate your model, and finally present your findings. Think of it as creating the foundation for an app that could one day help in classrooms, hospitals, or everyday conversations.

What you'll produce: A full data science report and code notebook that explains your process, your model's performance, and what you'd improve next. Details about what to include are laid out in the rubric.

Get ready to step into the shoes of a machine learning engineer and make a real impact!