

# ML-POWERED INVOICE MANAGEMENT FOR A MEDICAL RESEARCH ORGANIZATION

STREAMLINED INVOICE MANAGEMENT AND IMPROVED DUPLICATE INVOICE DETECTION

## CUSTOMER PROFILE

### HQ

Chevy Chase, MD

### INDUSTRY

Research Services

### EMPLOYEES

2,300

### ITC SERVICES

Artificial Intelligence  
and Machine Learning

### APPLICATIONS & TECHNOLOGIES

- Python

## INTRODUCTION

The client is a prominent American non-profit medical research organization dedicated to advancing biomedical research and education. They are one of the largest private philanthropies in the world, supporting the work of scientists and researchers across various institutions, fostering groundbreaking discoveries in the life sciences.

## CHALLENGES

The client struggled with identifying duplicate invoices due to variations in details like descriptions, amounts, and dates. Their existing solution produced false positives by detecting similarities across different suppliers' invoices, leading to unnecessary reviews. They needed a more accurate solution to streamline the process and improve duplicate invoice detection.

## SOLUTION

IT Convergence used four machine learning models to process invoices from September 2018 and found that they outperformed the client's current system, demonstrating higher accuracy and fewer false positives. This improvement meant that end users will need to review fewer invoices. ITC's machine learning model also detected more complex scenarios, including instances where invoices had practically identical values in their features, which the current solution missed. We presented the results via Tableau, showcasing the invoices our model identified that were not in the client's solution, along with new scenarios that hadn't been considered before.

## RESULTS

- Processed data from September 2018 using four machine learning models, and each model outperformed the client's existing solution
- ITC solution demonstrated higher accuracy and fewer false positives, reducing the number of invoices for end-user review
- Detected more complex scenarios, including instances the client's solution overlooked
- Identified invoices not in the client's solution and presented the results in Tableau

## ITC ADVANTAGE

- Expertise in Python-based machine learning solutions
- Advanced AI/ML capabilities and experience in executing similar projects