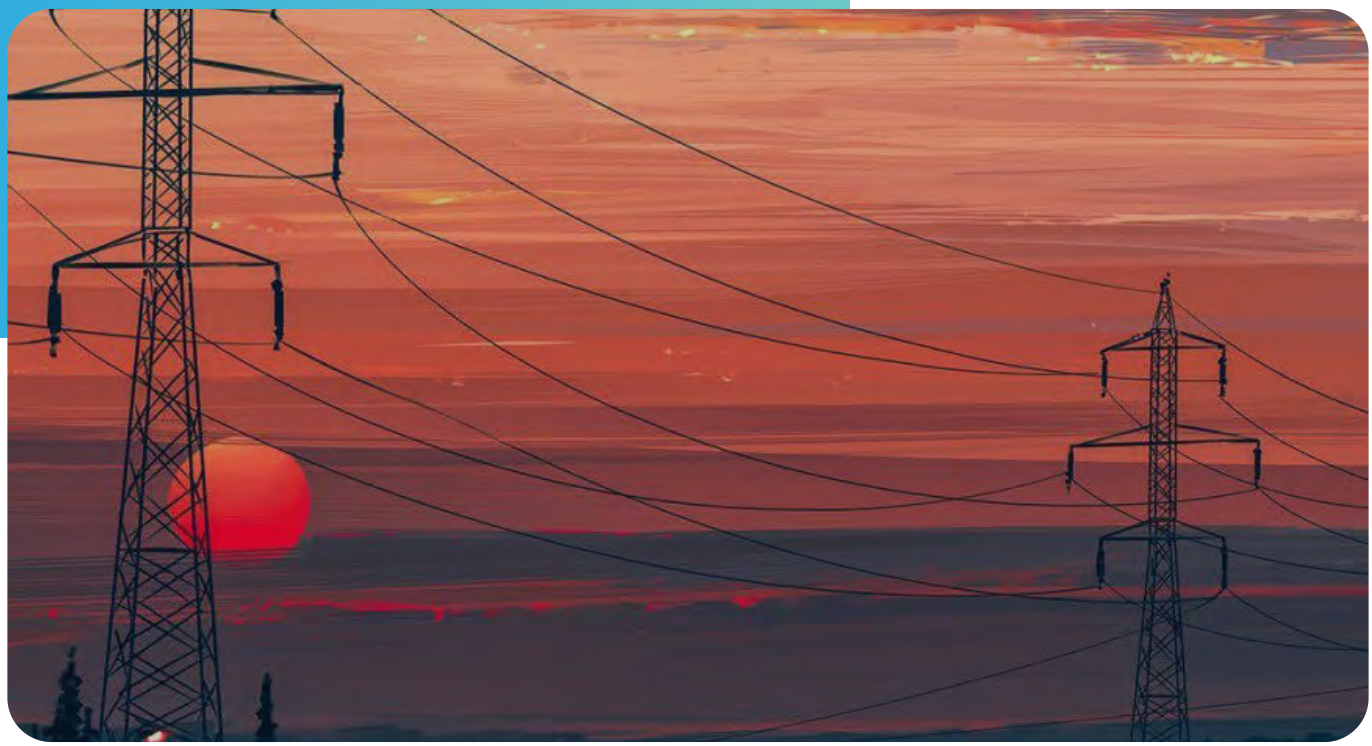
SUCCESS STORY



Wire and Pole Detection Data Annotation

Business

Data Annotation

Domain

Real Estate

Tools

Data Annotation:
LabelMe, Data Pre-Processing, Python

Wire Detection:
Instance Segmentation Models, Mask RCNN (Region Based Convolutional Neural Networks), Detectron2

CUSTOMER BACKGROUND

The customer is a real estate and infrastructure consulting services provider. Their expertise allows their customers (real estate property owners – both public and private) make better informed decisions about infrastructure projects and cut costs in project implementation. They help e ciently design and provide services to real estate property owners in the U.S.

BUSINESS REQUIREMENT

The client was interested in creating a solution to detect the di erent types of wires that were present in the thousands of images that they had. Subsequently, calculating their directions to reduce the turn around time taken to taken key business decisions. The client had over 3000 documents to be accurately annotated before it could be used for the wire detection models.

CHALLENGES

- Training the model required good quality annotated data
- Ensuring Quality of data with consistency and accuracy
- Controlling the cost of labelling data

SOLUTION OVERVIEW AND IMPLEMENTATION

- RCNN and DETECTRON2 were used to detect wires.
- Data Annotation was a key part of the engagement, as a precursor to the supervised ML training.

Annotation Details

- Labelme software was used to annotate the wires in the photos.
- 2 di erent types of wires – transmission (red) and communication (green) were tagged.
- Total of 3000+ documents were annotated and converted to VOC and COCO formats, which can then be directly consumed by the AI models.

BUSINESS IMPACT

Time:

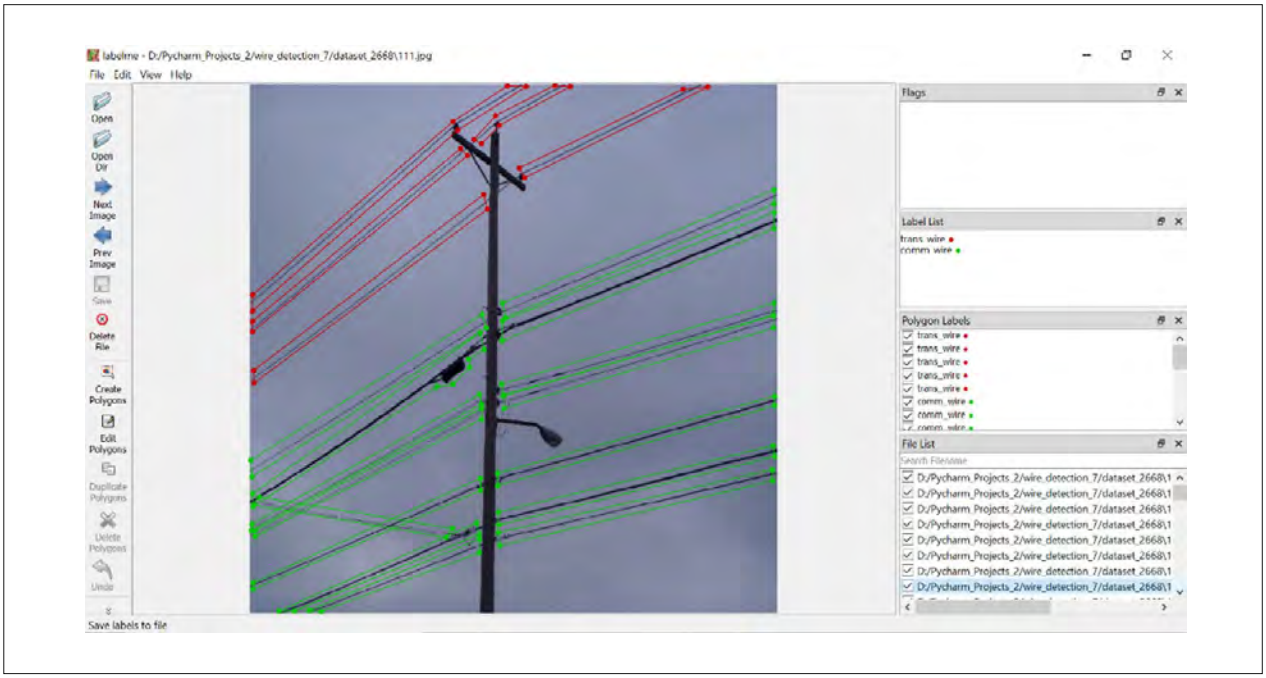
- The streamlined process significantly reduced the e ort taken to identify the di erent types of wires by 40%.
- Reduced the time taken for the entire data pre-processing activity by 45%.

Accuracy:

- High level of accuracy was achieved by employing effective quality control mechanisms, thereby minimizing human errors.

APPENDIX

Labelme software was used for annotation of the files. Screenshot of the app below



ANNOTATED FILES

Here are some sample files before and after annotation:

ABOUT INDIUM

Indium Software is a leading provider of Digital Engineering solutions with deep expertise in Application Engineering, Data and Analytics, Cloud Engineering, DevOps, Digital Assurance and Gaming.

Over the past decade, Indium has built strong relationships with over 100 clients spanning ISVs, Global 2000 as well as born-digital companies across North America, India, Europe and the Asia-Pacific region, and with ecosystem partners such as AWS, Mendix, Striim, Denodo and Claris.

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