

Abhilasha Lodha

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EDUCATION

University of Massachusetts Amherst

Sep 2022 - May 2024 (Expected)

Master of Science (MS) in Computer Science

Amherst, MA

Courses: Statistics, Advanced Machine Learning, Systems for Data Science

Delhi Technological University

Aug 2014 - May 2018

B.Tech in Electrical & Electronics Engineering | 80.41% | Dept. Rank 3 out of 110

Delhi, India

Courses: Digital Signal Processing, Advanced Mathematics, Programming Fundamentals

EXPERIENCE

EXL AI R&D, Senior AI Developer

Jul 2021 - Jul 2022

Xtracto.AI - Computer Vision & NLP Asset

Gurgaon, India

- **Increased** query search efficiency by **85% for 3 clients** by developing a system to detect borderless tables & extract information from ~4000 scanned financial statements in O(n) time complexity [Faster RCNN, OCR, AWS Lambda, S3]
- **Reduced analysts' man-hours by 97%** by automating an end-to-end pipeline for table classification to categorize financial statements [Naive Bayes classifier, AWS Lambda, Step Functions, S3]
- Developed a solution to extract information & map 10+ data points with a response time of ~5 sec from Spanish & English invoices in a **multi-threaded environment** [AWS Textract & Translate APIs]

Accenture AI, Advanced Application Engineering Analyst

Sep 2018 - Jun 2021

Image Analytics Service Platform - Computer Vision Asset

Gurgaon, India

- Built a Covid-19 safety management system across **45 Accenture India facilities** for mask detection, social distancing violation detection & temperature measurement on 20,000 camera feeds [Yolo V5, Flir Image Extractor]
- Designed a geospatial image analytics system to pre-process Landsat8 images, compute satellite indices (NDVI, NDWI, NDBI) & predict up to 5 classes with an **IoU score of 93%** [UNET, AWS EC2, S3]
- Devised a medical image segmentation platform to segment tumors from ~450 MRI scans in 5 categories with a **DSC score of 87%** [UNET, AWS EC2, S3]

MyWizard IngrAI Platform - Machine Learning & NLP Asset

- Implemented a high-performance intent classification & entity extraction system, **reducing manual effort by 95% for 100 engineers** for performance metrics evaluation & infrastructure monitoring [Rasa, TF-IDF, Glove, Word2Vec, Spacy]
- Developed a model for a **Fortune 500 featured client** to predict & monitor customers with default payments to mitigate the client's financial losses with an AUC score of 94.41% [Decision Tree, Random Forest, XGBoost]
- Engineered an abstractive text summarization system for generating conceptual summaries to condense critical information from long emails with a **ROUGE-2 score of 89%** [Bert, Google T5 Transformers, AWS EC2]

PUBLICATIONS

"Floor Space Optimisation and Recommendation System in 2D Space" ([Link](#))

SAMDE'21

- Developed an end-to-end solution for empty floor space optimization in 2D images with an **IoU score of 96.4% on a threshold of 0.5** [Mask RCNN, Image Blending]

"Borderless Table Detection and Extraction in Scanned Documents" ([Link](#))

SAMDE'21

- Designed a pipeline for borderless table detection & data extraction from scanned input documents with an average **accuracy of 98.4%** [SSD Mobilenet, TensorFlow Lite, OpenCV]

PROJECTS

- Optimized a visual search & recommendation system with a **cosine similarity of 92%** to generate 5 similar apparel images from 1 input image using Amazon Fashion dataset [ResNet, Attention GANs, MXNet, KNN]
- Improved a skin lesion classification model with **93% train & 95% test** accuracies to classify 7 types of skin lesions on HAM10000 dataset [MobileNet, TensorFlow]

SKILLS

Language & Technologies: Python, C++, R, HTML, Flask, Linux, Docker, SQL

ML Frameworks & Tools: TensorFlow, Keras, PyTorch, OpenCV, Scikit-Learn, NLTK, Numpy, Pandas, Spacy

Others: AWS (Lambda, EC2, S3, Sagemaker, Step Functions, Textract, Translate, Kinesis), JIRA, Version Control (Git)

LEADERSHIP & AWARDS

- Found **own tech start-up 'Design Dockyard'** effectuating 50+ international projects in graphic & UI/UX design
- Won **1st position across 18 countries & 531 teams** in Accenture Global Artificial Intelligence Hackathon