Curriculum vitae

PERSONAL INFORMATION

Rwiddhi Chakraborty

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JOB APPLIED FOR

Summer Internship

WORK EXPERIENCE

03/09/2018–03/03/2019

Research Fellow

Videoken, Bangalore (India)

1) Employing deep learning in Image Segmentation - In this respect, my responsibilities were:

a) To research existing deep learning architectures in image segmentation and implement them to our particular use case - Extracting slide segments from lecture videos to enhance text extraction from these slides. Architectures I worked with and am comfortable with in this respect, are:
i) U-Net
ii) FCNet - Using a VGG16 as part of the encoder layer
iii) Mask-RCNN - Used primarily from Matterport's implementation - https://github.com/matterport/Mask_RCNN

b) Once the predicted segmentation masks were produced, I designed various computer vision heuristics that better approximate the region in the frame where the lecture slides were located. My algorithm approximates a convex hull over this region, and these coordinates are sent to the next module in our pipeline [coordinates received via an API request].

Language: Python 3.5
Tools used:
a) Keras
b) OpenCV
c) Shapely geometry
d) Docker [worked with images]

This work was pushed to production, and is part of Videoken's IP.

2) For Videoken's text summarisation research, I created a unique training dataset by designing and implementing a Python script that parsed a little over 7000 PDF books [~35 GB] focussed on areas in computer science, extracted headers and their corresponding text to create key-value pairs for all the pages of all the books.

3) Creating deep learning tutorial material [Jupyter notebooks] for Videoken's enterprise training programs - Used by current employees at TCS.

4) Some good old fashioned manual work - Annotated a little over 20,000 images to add to our in-house dataset.

EDUCATION AND TRAINING

09/2019–Present

Msc. in Informatics [Artificial Intelligence]

Università Della Svizzera Italiana, Lugano (Switzerland)

Cumulative GPA: 8.3/10

Relevant Courses: Artificial Intelligence, Machine Learning, Deep Learning Lab, Numerical

Algorithms, Algorithms and Complexity

08/2014–07/2018

B.Tech in Electronics and Communication Engineering

Heritage Institute of Technology, Kolkata (India)

Cumulative GPA: 8/10

GRE Score: 331/340

PERSONAL SKILLS

Mother tongue(s): Bengali

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
	TOEFL				

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

Job-related skills

Programming:

Python [Proficient], C++ [Introductory], Javascript [Introductory]

Tools:

Keras, Tensorflow, OpenCV, Git, Numpy/Scipy, Pandas, Jupyter