Raghul Asokan

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Education

Anna University(SSNCE) — Chennai, India
Bachelor's in Computer Science *GPA: 8.6* — Aug 2012 - May 2016

Marian Mat. Hr. Sec. School — Chennai, India
Class XII State Board, 97% — June 2011 - April 2012

Work Experience

Zoho Corporation — Chennai, India
Deep Learning Engineer at ZLabs — June 2016 | Present

Receipt Digitizer *Keras, OpenCV, Numpy*
Developed an Optical Character Recognition(OCR) pipeline using Neural Networks for extracting useful receipt information such as amount, date, mode of payment, currency. This end-to-end pipeline consists of various stages such as Orientation Detection, Text Detection, Text Recognition and Information Retrieval.

- Text Recognition architectures: CNN + BLSTM + CTC, CNN + CTC(Rosetta).
- Text Recognition Dataset: Synthetically generated word images using various fonts, backgrounds and image transformations.
- Single Word Accuracy(SWA) of 85%.

Projects

Subtitle Generator/Video Summarizer *OpenCV, DeepSpeech*
https://github.com/mailcorahul/subs_generator
This subtitle generator pipeline consists of multiple stages such as Audio extraction, Voice Activity Detection, Segmentation, Speech-to-Text using Deep Speech and a Text Summarizer.

Image Super-Resolution Using Deep Convolutional Networks
https://github.com/mailcorahul/super_resolution
A PyTorch implementation of the paper for enhancing the quality of word images used for OCR Word Recognition.

- Dataset used: Synthetically generated receipt word images.
- Accuracy - Average PSNR: 19.92 dB

Other Computer Vision Projects
https://github.com/mailcorahul/computer_vision

- Character Recognition(94 classes) using CNN. Synthetic character dataset using 9217 fonts, Accuracy - 95%.
- Text Detection using Maximally Stable Extremal Regions with increased recall and performance.
- Boundary Detection in Receipts using Structured Forests and Hough Line Transform.

Cloud Service Ranking and Selection - A Genetic Algorithm Approach(B.E Project)
https://github.com/mailcorahul/GA
This project focuses on a system which uses an optimization algorithm - Genetic Algorithm for cloud service selection based on parameters such as processor speed, cost, RAM etc.

Skills

Programming Languages:	C, C++, Python, Java
Deep Learning:	Numpy, OpenCV, PyTorch, Keras
Web:	HTML, CSS, Javascript, jQuery, Apache Tomcat, CherryPy
Platforms:	Linux, Windows

Awards

Obtained Merit Scholarship for the year 2013-2014 for the securing second rank in Anna University examination.

Won first place in Coding contest in Reboot, a National level Technical Symposium organized by MCA department held at SSN College of Engineering.

Secured third place in Zia Hackathon 2018 - A Machine Learning Hackathon held at Zoho Corporation.