LINCY PATTANAIK

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RESEARCH INTERESTS

Information Extraction & Retrieval, Information Systems, Natural Language Processing, Program Synthesis

EDUCATION

International Institute of Information Technology, Hyderabad
Bachelor of Technology (B.Tech) August 2014 - April 2018
Electronics and Communication Engineering(ECE)

WORK EXPERIENCE

Microsoft Research Nov 2020 - Present
Role: Research Fellow

· Working on structured information extraction from heterogeneous data which is robust to changing document templates (extension of HDEF, PLDI 2019)

  – Combination of techniques from program synthesis (PROSE) and machine learning communities

Microsoft IDC June 2018 - Oct 2020
Role: Data Scientist

· Bing's local experience:

  – Boosted precision of query classifier by 40% by adding clustering based signals from index data

· Microsoft enterprise search in Bing:

  – Added new probabilistic query understanding models for acronym feature in enterprise search

  – As part of enterprise autosuggestion team, designed clicked history based pipeline for user specific suggestion.

  – Scaled enterprise suggestion promotion model to non-English markets
  Web vs Enterprise Autosuggest

RESEARCH EXPERIENCE

Traffic Signal and Sign Detection for Autonomous Driving Jan 2017 - Dec 2017
Guide: Prof. K. Madhava Krishna, B.Tech Project

· Proposed to detect, track and localize traffic signs and signals
· Tehniques like pixel wise semantic segmentation on top of CNN were used

Index Coding July 2016 - Dec 2016
Guide: Prof. Prasad Krishnan

· Studied class of index coding problems and in the process obtained a stricter necessary condition for rate 1/3 feasibility

Error Correction Code for Hybrid Memory June 2016 - July 2016
Guide: Prof. Prasad Krishnan

· Aimed at improvising the existing (72,64) Hamming SEC-DED codes in hybrid memory systems to a more efficient (68,64) code

PROJECTS

Shape-Preserving Half-Projective Warps for image stitching Feb 2018 - April 2018
Prof. Anoop M. Namboodiri, Course project

· Implemented a novel parametric warp, a spatial combination of a projective transformation and a similarity transformation. By this, the field of view could be extended by stitching images with less projective distortion

Image Segmentation using Watershed Transform Aug 2017 - Nov 2017
Prof. Avinash Sharma, Course project

· Implemented a modified watershed algorithm using adaptive thresholding and adaptive masking techniques

Model to predict flight performance Aug 2016 - Nov 2016
Prof. Avinash Sharma, Course project

· Implemented models to predict flight on-time performance, whether it was delayed or not using flight arrival and departure data
· Used machine learning techniques like SVM, random forests and neural networks

Image Compression using Discrete Cosine Transform Feb 2016 - April 2016
Prof. Lalitha Vadlamani, Course project

· Used Discrete Cosine Transform to compress images

RELEVANT COURSES

Machine Learning	**Programming**	**Mathematics**
Intro to AI	Algorithms & OS	Linear Algebra
Information Retrieval	Computer Programming	Discrete mathematics
Digital Image Processing	Data Structures	Probability and Random Processes
Computer Vision	Computer System Organisation	

TECHNICAL SKILLS

Programming Languages:	C/C++, C#, Python, MySQL
Frameworks & Libraries:	ScikitLearn, TensorFlow, Keras, Caffe, OpenCV, PROSE
BigData:	Azure Cosmos DB

TEACHING EXPERIENCE

IMA304 - Linear Algebra Jan 2018 - April 2018

· Helped in making assignments and grading

IMA303 - Differential Equations Aug 2017 - Nov 2017

· Helped in making assignments and grading

ECE339 - ECE Lab Jan 2017 - April 2017

· Involved conducting lab sessions and teaching basic simulations on MATLAB