Returaj Burnwal

returaj.burnwal@gmail.com | https://github.com/returaj | +91-90-1467-9164

Education

IIT Hyderabad, India — June 2012 – May 2016

Bachelor of Technology, Electrical Engineering (Honors), GPA: 9.17/10

- Academic Excellence Award for obtaining highest GPA in the year 2014-2015
- Awarded Merit-Cum-Mean Scholarship (amount equal to academic fee) for all semesters of my undergraduate program 2012-2016.

Technical Skills

Languages: Java, Python, Scala
Databases: MySql, Apache Solr
ML Tools: sklearn, tensorflow
Web Development: Spring-boot, Flask
DevTools: Linux, Git, Docker, Kubernetes, Spark, Hive, Airflow

Self Study

Dec 2020 - Present

To understand the basics, I have been learning Reinforcement Learning through online courses and books.
Courses that I took:

- Foundations of Intelligent and Learning Agents from IIT Bombay
  - https://github.com/returaj/IITB-CS747
- Machine Learning for Intelligent Systems from Cornell University
- Reinforcement Learning: An Introduction by Sutton and Barto [Completed till Chapter 10]
  - https://github.com/returaj/myrl/tree/main/rl_sutton
- RL Theory [Ongoing] from University of Alberta
- Convex Optimization [Ongoing] from Stanford University

Industry Experience

Yahoo Japan, Software Engineer, Tokyo Japan — Oct 2016- Nov 2020

- Implemented an end to end machine learning system for detection of multiple categories like location, sports, events in an article, which achieved an overall score of 86% Precision and 85% Recall on the internal dataset.
- Implemented an end to end system for entity detection and disambiguation of news articles.
- Designed a heuristic model for entity disambiguation which achieved 90% precision and recall on the internal dataset.
- Maintainer and Project Manager of backed system which serves 100+GB of data to knowledge panel.

Research Experience

Uurmi System, Research Intern, Hyderabad May 2015 – July 2015
India

- Responsible for implementing and comparing bit error rate of different decoding algorithms for Multiple Input Multiple Output noisy channel.
- Experimented with Sphere Decoding, Fast Sphere Decoding Algorithms

Multiple Object Target Tracking Jan 2016 – April 2016
Advisor: Dr. Soumya Jana

- Designed machine learning algorithm for multi-object tracking based on Markov Chain Monte Carlo Data Association method and Kalman filter

Image Super Resolution
Advisor: Dr. Sumohana Channappaya Jan 2015 – May 2015

- Implemented various algorithms like Bi-cubic spline, Bi-linear, Nearest Neighbour, and sparse dictionary based method to achieve image super resolution.

Message Coding-Decoding Jan 2015 – May 2015
Advisor: Dr. Kiran Kucchi

- Implemented and compared performances of different messaging encoding and decoding algorithms like MAP(BCJR), Viterbi decoding

Responsibility Experience

Head Coordinator Robotics Club April 2014 – April 2015
IIT Hyderabad, India

- Planning activities, hands on sessions, organizing events, and implementing and mentoring robotics projects
- Represented IIT Hyderabad in RoboCon-2014, Pune India

Honors & Rewards

- Yahoo Japan Internal Hackday: Stood 3rd among 30 teams, 2016
- TechFest Grid Master, IIT Bombay, India: Stood 3rd among 40 teams across south India in the line following robotics competition, 2014
- Joint Entrance Exam (JEE): Top 0.5% among 0.5 million students across India for undergraduate admissions, 2012
- Regional Mathematical Olympiad: 2nd rank in the senior section, Jharkhand, India, 2011
- Actively participating in the Algorithmic competition. (Best Rank 89 out of 5000+ participants. https://leetcode.com/rburnwal/)

Languages

- English, Japanese, Hindi