

Rajarthnam Balakrishnan

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EDUCATION

University of California, Berkeley

Aug 2019 - May 2020

Master of Engineering in Industrial Engineering and Operations Research

Track: Data Analytics and ML

Technical Coursework:

Applications of Data Analysis, Applied Data Science with Venture Applications (Data-X), Optimization Analytics, Risk Modeling Simulation and Data Analysis

Leadership courses [The Coleman Fung Institute for Engineering Leadership]:

Finance, Industry Analysis, Organizational Behavior for Engineers, R&D Technology Management and Ethics, High Performance Teaming; Communications for Engineering Leaders

SRM Institute of Science and Technology, Chennai, India

2013 - 2017

Bachelor of Technology in Mechanical Engineering

Graduated First Class with Distinction | GPA: 9.44/10 | Top 2% in Cohort

WORK EXPERIENCE

Data-X Research Intern

Jun 2020 - Present

Data-X Labs, The Pantas and Ting Sutardja Center for Entrepreneurship & Technology, UC Berkeley

- Responsible for preparing Deep Learning and Machine Learning educational content

PROJECT EXPERIENCE

FuSSI-Net: Fusion of Spatio-temporal Skeletons for Intention Prediction Network

Feb 2020 - May 2020

with Volvo Cars, USA (*A collaborative research project between student teams at UC Berkeley and Chalmers University-Sweden, and Volvo Cars-USA and Sweden*)

Team member and Lead for 2 of the 3 subdivisions of the project | Team: 6 (Berkeley) & 6 (Chalmers) members

- Secured a position in the 6 member team of UC Berkeley out of 50+ applicants for the project
- Steered multiple work streams of the research by leveraging previous knowledge in machine learning.
- Accelerated different component training experiments by pre-processing raw dataset to all required formats.
- Educated team members on the basics of object detection, image classification, CNNs and TensorFlow.
- Spearheaded multiple collaborative integration meetings with Chalmers University Team to integrate both work streams for performance improvements.
- Brainstormed and championed initiatives to integrate features across work streams.
- Verified night time detection improvements using style transfer GAN to generate night time like data from day time images.
- Achieved the highest AP score of 0.89 for the early-fusion based classifier by experimenting different training routines based on previous experience.
- Built the end to end integration of different components resulting in four models that take an input video and provide a video output with all the analysis information without any intermediate break-downs.
- Benchmarked different individual components and end to end frameworks by utilizing customized codes.
- Co-authored a research paper and submitted for the 2020 IEEE Asilomar Conference on Signals, Systems and Computers.

Pedestrian and Vehicle Recognition for Autonomous Driving

Aug 2019 - May 2020

MEng Capstone Project | Team Lead | Team: 4 members

- Selected as Lead by team members and advisor based on previous coursework on machine learning.
- Advised, planned and supervised project plan in collaboration with Project Manager and Advisor.
- Curated and referred learning resources for basics and programming for deep learning with focus on CNNs.
- Organized weekly team meetings and clarified doubts and brainstormed improvements with team members.
- Reviewed research papers and collaborated with team members to design a novel object detection architecture.

- Refined and coded scripts for classifier and detection layer implementation in TensorFlow.

Start-up Success Prediction

Feb 2020 - May 2020

MEng Course Project | Team: 4 members

- Initiated different data cleaning techniques to clean the raw dataset.
- Consulted with different members to provide cleaned and complete dataset as per their requirements for modelling.

AWARDS

May 2020: Best Project Award for the Volvo Research Project in DataX course (Spring semester) at UC Berkeley.

Feb 2016: Merit Based Scholarship award at SRM University for Junior Year Undergraduate Degree.

SKILLS

- Python, TensorFlow, Keras, NumPy, Pandas, R Programming, Tableau, SQL, MS Office
- Problem Solving, Communication, Machine Learning, Exploratory Data Analysis, Mathematical Modeling, Statistics, Probability, Deep Learning

ADDITIONAL COURSEWORK

Neural Networks and Deep Learning, Coursera (Online)

Oct 2019

Neural networks, forward propagation and backpropagation, building and training deep neural networks to computer vision tasks

Introduction to Computer Science and Programming using Python, MITx-edX (Online)

Nov 2018

Python basics, functions, structures, OOP, complexity

Certification Program in Data Science, UpX Academy (Online)

Sept 2017 - Mar 2018

Exploratory Data Analysis, Python, R, Tableau, Machine Learning Basics and case studies, Deep Learning Introduction