

Deepak Karkala



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2+ years experience with Masters in Data Science, looking for positions in Machine Learning, AI and Data Science domains.

[Portfolio](#)[GitHub](#)[LinkedIn](#)

Education

2015 – 2018 **Master of Science**
EPFL, LAUSANNE SWITZERLAND
COMMUNICATION SYSTEMS

2007 – 2011 **Bachelor of Engineering**
RVCE, BANGALORE INDIA
ELECTRONICS AND COMMUNICATION

Projects

Image segmentation using Deep Learning for e-commerce applications Aug 2020

The project aimed at using image segmentation for products on e-commerce websites. It involved creating dataset by scraping product images, using transfer learning to fine-tune the deep learning model to perform segmentation of products from images. The application was served using Flask and Docker on Google Cloud Platform.

Predictive Modeling and Alternate Search Rankings for Airbnb Sep 2020

The project aimed at predicting the price of an Airbnb listing given a number of features. The project also involved coming up with alternate search rankings based on neighbourhood vibe, aesthetic quality of listings photos and using A/B testing for comparing different search rankings. The application was served using Flask and Docker on AWS.

Anomaly Detection in IoT Sensor Data April 2018

This thesis project involved developing a predictive maintenance algorithm aimed at detecting the presence of abnormalities in heating energy consumption in apartments using data captured by IoT sensors. An interactive dashboard was developed and the alerts raised were then used by the maintenance team to trigger required corrective actions in advance, leading to predictive maintenance of the system. [Thesis](#)

Scene understanding using Deep Learning July 2017

This project aimed to interpret the scene using deep learning algorithms. It involved detecting and localising the objects, determining the relations between objects in the image by training Convolutional Neural Networks using the PyTorch framework.

Recommender system using Matrix Factorization

This project aimed to predict the missing entries in the data matrix. An ensemble model was developed by combining Matrix factorisation model(ALS, CCD) with the nearest neighbor model and the results were compared with the baseline methods. [Paper](#) [Code](#)

Skills

Programming Python, Java, JavaScript, HTML, CSS

Data Analytics Numpy, Pandas, Flask, Docker, AWS
d3.js, Spark, SQL, A/B Testing

Machine Learning Scikit-learn, PyTorch, Keras
Deep Learning for Vision, NLP
Predictive Modeling, Anomaly Detection
Clustering, Recommender Systems

Work Experience

Jun 2018 – Aug 2020
Renens Switzerland

eSMART Technologies DATA ANALYTICS ENGINEER

Worked on data analytics and anomaly detection in IoT sensor data of buildings.

Feb 2017 – Jul 2017
Princeton USA

NEC Labs America MACHINE LEARNING RESEARCH INTERN

Worked on Object and Relationship detection algorithms for Scene understanding using Deep Learning in PyTorch.

Mar 2012 – May 2015
Bangalore India

Signalchip Innovations DESIGN ENGINEER

Joined the semiconductor startup as the fifth employee and was involved in design and development of Signal Processing algorithms for Wireless Communications - 3G (WCDMA) and 4G (LTE).

Jun 2011 – Feb 2012
Bangalore, India

Indian Institute of Science JUNIOR RESEARCH FELLOW

Developed efficient algorithms for image reconstruction in Diffuse Optical Tomography using MATLAB.

Journal Publications

Medical Physics - 2012

Data-Resolution based Optimization of the Data-Collection Strategy for Near Infrared Diffuse Optical Tomography. [Link](#)

IEEE JSQTE - 2012

Mesh simplification based on edge collapsing could improve computational efficiency in near infrared optical tomographic imaging. [Link](#)

Patent

Method and system for symbol level interference cancellation at a receiver for multiuser detection. [Link](#)