

Karthik Muthuraman

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SUMMARY

Software Engineer specializing in Machine Learning and Deep Learning.

Experience with handling multiple sides to an ML project - from research, modeling, moving to production, legal, and societal/bias mitigation.

EDUCATION

UNIVERSITY OF MICHIGAN

MS IN ELECTRICAL AND COMPUTER ENGINEERING

Ann Arbor, USA | Dec 2018

GPA: 3.78

INDIAN INSTITUTE OF TECH.

BTECH IN ELECTRICAL ENGINEERING

Indore, India | June 2016

GPA: 8.3 / 10.0

LINKS

[Google Scholar](#)

[Personal Website](#)

[Coursera Instructor Profile](#)

[GitHub](#)

SKILLS

PROGRAMMING

Python • MATLAB

C++ • Julia

FRAMEWORKS

TensorFlow • PyTorch

SQL • Hadoop

LaTeX

ENVIRONMENTS

Windows • Linux

Git • Docker

GRAD COURSES

Machine Learning

Computer Vision

Estimation, Detection and Filtering

Graph Data Mining

Self Driving Cars

Artificial Intelligence

Reinforcement Learning

WORK EXPERIENCE

IBM | SOFTWARE ENGINEER - MACHINE LEARNING/AI

Feb 2019 – current | San Francisco, USA

- Research and development of production grade Deep Learning models offered over container services - [IBM Model Asset Exchange website](#).
- Own and manage features and datasets on IBM Data Asset eXchange.
- Partner with product and client teams to deliver Proof of Concepts for both products and client integrations of Machine Learning and Deep Learning models across domains of Vision, Language and Time Series.
- Contribute to open source ML projects such as TensorFlow - [commit history](#)
- Author and publish two courses on Big Data and ML on [Coursera](#).

IBM | OPEN SOURCE MACHINE/DEEP LEARNING DEVELOPER INTERN

May 2018 – August 2018 | San Francisco, USA

- Working at the IBM Center for Open-Source Data and AI Technologies (CODAIT), writing production quality code for Machine Learning/Deep Learning/AI models. Published two models – audio classification and facial recognition – and a code pattern (blog + video).

STEELWEDGE SOFTWARE | ASSOCIATE IMPLEMENTATION ENGINEER

July 2016 – July 2017 | Hyderabad, India

- Design and implementation of supply chain software solution (SaaS) and database customizations on SQL database and big data platforms (Impala, Kudu) with an active customer facing role. Worked on a proprietary statistical forecasting engine and regression analysis on timeseries data.

INTEL | SOFTWARE ENGINEERING INTERN

May 2015 – Nov 2015 | Bangalore, India

- Firmware and Software level development - Bluetooth Low Energy stack (v4.2). Only Intern to push code to Production at Wireless Platform R&D Lab at Intel India (2015).

PROJECTS

IDENTIFYING INCORRECT LABELS IN CONLL-2003 DATASET | RESEARCH PROJECT

May - Nov 2020 | San Francisco, USA

Research project and paper that uses a novel semi supervised learning method to identify incorrect tags in large NLP datasets. Presented at the Conference on Computational Natural Language Learning (2020). Links: [Code \(GitHub\)](#); [Paper \(ACL\)](#).

VISION FOR AUTONOMOUS VEHICLES | COURSE PROJECT + INDEPENDENT RESEARCH

Oct 2017 – Dec 2018 | Ford Center for Autonomous Vehicles (FCAV), Ann Arbor, USA

Implemented R-CNN based detection and drew 2D bounding boxes around detected cars. Used Mask R-CNN to detect driveable area. Develop a pipeline to train a custom image segmentation model that encodes depth information to generate high quality disparity maps. Links: [Code \(GitHub\)](#), [Video \(Youtube\)](#).