Bharathwaj **Krishnaswami Sreedhar**

ksbharathwaj17@gmail.com | (049) 1775946296 | ksb1712/ | ksb1712.github.io/ | ksbharathwaj17/

Education

KTH Royal Institute of Technology — *Stockholm, Sweden*
MSc in Autonomous Systems (EIT) | Grade: B (Highest - A) — *Expected Sept 2020*
Courses: Deep Learning - Advanced, Applied Estimation, Scalable Machine Learning

Technische Universität Berlin — *Berlin, Germany*
MSc in Autonomous Systems (EIT) | GPA: 1.98 (Highest - 1.0) — *Expected Sept 2020*
Courses: Machine Intelligence, Robotics, Applied AI, Hybrid Systems

National Institute of Technology, Tiruchirappalli — *Trichy, India*
B.Tech in Electrical and Electronics Engineering | GPA: 8.35 / 10.0 — *Graduated May 2018*
- **Courses:** Pattern Recognition, Image Processing, Data Structures, Microprocessors
- Head of web operations and System administrator for NITTFEST'17.

Skills

Programming Languages:	C / C++, Python, Java, Matlab, PHP, SQL, Embedded C
Frameworks and Tools:	Tensorflow, PyTorch, NNabla, OpenCV, ROS, CUDA, Spark, Git, CARLA, Android
Spoken Languages:	English, German, Tamil, Hindi

Experience

Sony R&D — *Stuttgart, Germany*
Master Thesis | AI Speech and Sound Group — *Feb 2020 - July 2020 (Exp)*
- Developed graph kernels for Bayesian optimization with Gaussian priors for Neural Architecture Search.
- Achieved results comparable to state-of-the-art on NASBench101 under hardware constraints.

National University of Singapore — *Singapore*
Summer Research Intern | OEIL — *May 2017 - Aug 2017*
- Developed a custom CNN architecture to obtain semantic segmentation of the ONH(7 layers) from OCT scans.
- Implemented an algorithm to detect and trace the contour of Bruch's membrane in a 3D volume scan.

Publication

Deep Learning for Hardware-Constrained Driverless Cars
Accepted IEEE COMPSAC 2020

DRUNET: A DILATED-RESIDUAL U-NET DEEP LEARNING NETWORK TO SEGMENT ...
BIOMEDICAL OPTICS EXPRESS –VOL 9, ISSUE 7 (2018)

Projects

Reinforcement Learning for Autonomous Car — *KTH, Stockholm*
CARLA, TF — *Oct 2019 - Jan 2020*
- Implemented Deep Q learning and Imitation learning to train an autonomous car in CARLA.
- Optimized the algorithm to reduce resource usage.

Vehicle Detection and tracking — *Technische Universität Berlin*
Keras, OpenCV — *May 2019 - July 2019*
- Implemented a real time vehicle detection and tracking with input from a traffic camera.
- Statistics from tracking are used to estimate traffic density.

Distributed Multi Agent Coordination — *Technische Universität Berlin*
ROS, Python — *May 2019 - July 2019*
- Developed software for a multi-agent system to solve a common task - MAPC'19
- Implemented SLAM, Astar and Swarm Behavior in a distributed manner.

Other Projects
- Residual Based Image Compression using Autoencoders - PyTorch
- LSTM based Music Generation - Keras
- Optimization of Binary Neural Nets (NeurIPS 2019 Reproducibility Challenge) - TF
- Accelerated Vector Autoregression for fMRI - CUDA C++
- Localization of Self-driving car - CARLA, Python
- LSTM based Energy prediction - Keras