

Sauhaarda Chowdhuri

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RESEARCH

PhonoViz: Chroma Feature Visualization for Hindustani Classical Music

March 2019 - May 2019

First Author Paper in Review for FMA 2019

- Created a visualization technique for saliency information retrieval in convolutional networks handling audio data using LibROSA, PyTorch, and Google Compute Engine for processing

PhonoNet: Multi-Stage DNNs for Raga Identification in Indian Classical Music

June 2018 - May 2019

First Author Paper in ACM ICMR 2019 and Intel ISEF 2019 Finalist

- Created a general-purpose machine learning architecture for processing long temporal sequences like those present in Indian Classical Music, achieving highest recorded accuracy in Hindustani Classical raga prediction

MultiNet: Multi-Modal Multi-Task Learning for Autonomous Driving

April 2017 - June 2018

First Author Paper in IEEE WACV 2019

- Created a visualization technique for saliency information retrieval in convolutional networks handling audio data using LibROSA, PyTorch, and Google Compute Engine for processing

WORK EXPERIENCE

UC Berkeley Deep Drive Laboratory

April 2017 – September 2017

Assistant Researcher

Berkeley, CA

- Conducted and published novel research in international computer vision conference (MultiNet above)
- Adapted SqueezeNet network from ImageNet to perform regression based driving tasks
- Managed Git repository and transferred Caffe repository to PyTorch/H5PY Training Repository
- Migrated RC robots from TX1 to TX2 and Qualcomm Snapdragon Flight platforms using ROS control system

Rockley Photonics

June 2016 - August 2016

Software Engineer Intern

Pasadena, CA

- Verified CMOS of Gen 1 optical network switch using C++ models of all switch components.
- Created routing table generation algorithm in a dynamic graphs using a modified Dijkstra's algorithm.

EDUCATION

Westview High School

June 2020

High School Student

San Diego, CA

- Honor Chain (#2 Rank), AP Scholar with Distinction, 4.55 GPA
- President of 70 member FRC Robotics Team and Solidworks CAD Design Lead
- USA Computing Olympiad Platinum Division, Coding Club Vice President, Cyber Security Club Vice President

Coursera

May 2018

Deep Learning Specialization

San Diego, CA

- Certified in Deep Learning Courses covering DNNs, CNNs, RNNs, Data Collection, and Tuning Methods.

SKILLS & INTERESTS

- Software Skills:** Python, PyTorch, OpenCV, ROS, Java, C++, Bash, Matplotlib, LaTeX, Adobe Creative Cloud
- Design/Mechanical Skills:** Solidworks, Autodesk Inventor, MasterCAM (CNC), Mill, Lathe, 3D Printing
- Research Interests:** Deep learning, control theory, robotics, computer vision, human-robot interactions
- General Interests:** Star gazing, stoic philosophy, graphics design, Hindustani classical music, hiking, running