Sravanth Reddy Bommana

2102 Gorman St, Raleigh, NC 27606
(919)-867-8104 sbomman@ncsu.edu linkedin.com/in/sravanthreddy/

EDUCATION

North Carolina State University **Expected Graduation: May 2023**
Masters in Computer Science, GPA: 4.0/4.0 *Raleigh, NC*
- Courses: Operating Systems, Design and Analysis of Algorithms, Automated Learning and Data Analysis

Indian Institute of technology(ISM), Dhanbad **Jun 2014 - May 2018**
B.Tech (Honors) in Computer Science & Engineering, GPA: 8.15/10 *Dhanbad, India*
- Courses: Data Structures, Machine Learning, Computer Vision, Discrete Mathematics, Computer Networks

EXPERIENCE

Samsung Research and Development Institute **Jun 2018 - Jul 2021**
Senior Software Engineer, Camera Division *Bangalore, India*
- Developed YUV Multi-frame processing (HDR) and Bayer Multi-frame processing (Night mode) solutions to improve Image quality in terms of noise and dynamic range.
- Implemented various Image Processing algorithms for image registration, motion blur reduction, image blending, noise reduction. Used Deep Learning to reduce the noise levels in an image under very low light conditions.
- Programmed production level code in C, C++ and NEON(SIMD) intrinsics for vectorization, meeting the required standards with various memory and performance optimizations.
- Commercialised the solutions in multiple Samsung flagship and innovative models starting from Samsung Galaxy S10 to recently released S21 ultra.

Fission Labs **May 2017 – Jul 2017**
Machine Learning Intern *Hyderabad, India*
- Contributed to Instant Appraiser - an application to estimate the cost of repair for a damaged car based on its images.
- Repurposed VGG16 architecture to classify the images into four different classes based on the direction the image is taken from. Achieved 97.05% validation accuracy and 96% test accuracy in classification.
- Predicted the region with damage in the image to provide an estimate of cost of repair.

Blue Water Trade Winds Pvt. Ltd., **May 2016 – Jul 2016**
Backend Development Intern *Dehradun, India*
- Contributed to development of BOSS, a web based platform(Django Framework) for voyage optimization, fleet management and vessel performance analysis for shipping companies and oil majors.
- Implemented efficient weather routing algorithm, which finds optimum voyage path and schedules speed dynamically based on the weather foresight, to optimize fuel consumption.

PROJECTS

Convolutional Neural Networks for Automatic Image Colorization **Jan 2018 - Apr 2018**
- Generated a plausible color version of the photograph using a grayscale photograph as input.
- Predicted the corresponding a and b color channels of the image in the CIE Lab colorspace taking lightness channel L as input.
- Achieved 54% classifier performance on VGG network using the fake colored images.

Single Image Super Resolution **Jan 2017 - Apr 2017**
- Conceptualized a deep learning based solution to generate high-resolution image from a single low-resolution image.
- Implemented the Deep CNN that learns an end-to-end mapping between low and high-resolution images using Keras.
- Achieved an average Peak Signal to Noise Ratio(PSNR) gain of 0.19 dB over Bicubic interpolation technique, on the ILSVRC 2013 ImageNet detection training dataset.

Selective Search for Object Recognition **Jun 2016 - Dec 2016**
- Implemented Selective Search by Hierarchical Grouping from the IJCV paper 'Selective Search for Object Recognition'.
- Achieved Mean Average Best Overlap(MABO) of 0.715 on pascal VOC dataset.
- Classified the proposed regions returned by the above algorithm using CNN.

University Course Management **Jan 2016 - Apr 2016**
- Developed an interactive university course management system website for students and professors using PHP.
- Created separate login interfaces for students and professors to ensure modularity.
- Implemented modules such as course registration, fee payment, assignment submission, email alerts, grade submission.

TECHNICAL SKILLS

Languages: C, C++, C#, NEON intrinsics, Python, HTML, CSS, LaTeX
Tools & Technologies: Linux, Valgrind, Perfetto, Perforce, Django Framework, VS Code, GIT, Agile methodologies
Packages: OpenCV, Numpy, Pandas, Keras, scikit-learn