

SRAVANTH REDDY BOMMANA

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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

TECHNICAL SKILLS

Languages: C, C++, C#, NEON intrinsics, Python, HTML, CSS, L^AT_EX

Tools & Technologies: Linux, Valgrind, Perfetto, Perforce, Django Framework, VS Code, GIT, Agile methodologies

Packages: OpenCV, Numpy, Pandas, Keras, scikit-learn

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 and achieved **DxO score of 119**.
- 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

Scheduling Policies in Xinu Operating System

Sep 2021 - Oct 2021

- Modified and Implemented new scheduling policies which are, a random scheduler based on priorities and the Linux-like scheduler which avoids the starvation between processes in process scheduling.

Demand Paging in Xinu Operating System

Oct 2021 - Nov 2021

- Implemented demand paging for the virtual memory management with Second Chance and LFU page replacement algorithms.

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.

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.