# Shibin George

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## EDUCATION

### UMASS AMHERST
Amherst, MA
M.S. in Computer Science
Sep, 2019 - Dec, 2020 (Expected)

### NIT WARANGAL
Warangal, India
B.Tech in Computer Science
August, 2011 - April, 2015
GPA: 8.48 / 10.0

## COURSEWORK

### GRADUATE
Information Retrieval
Natural Language Processing
Neural Networks

### UNDERGRADUATE
Operating Systems + Practicum
Distributed Computing

## SKILLS

### PROGRAMMING
Over 5000 lines:
Java • C • C++ • Shell • Python
Over 1000 lines:
Matlab • Javascript

## PUBLICATIONS

[1] Content Based Image Retrieval on Hadoop Framework. IEEE International Congress on Big Data, 2015. http://dx.doi.org/10.1109/BigDataCongress.2015.103.

[2] Weighted finite automata based on local patterns for image authentication. IEEE International Conference on Semantic Computing, 2015. http://dx.doi.org/10.1109/ICOSC.2015.7050797.

## EXPERIENCE

### QUALCOMM | Senior Software Engineer
Jun 2015 - July 2019 | Hyderabad, India

- Contributed bug-fixes to the Android Open Source Project, the official repository that hosts the Android OS. Take a look at my contributions **here**.
- Designed and implemented Over-The-Air (OTA) software-upgrade solutions for Linux Android platform. I was awarded a **Super Qualstar** (highest recognition for individual-contribution within Qualcomm) for my work on A/B OTA upgrade solution in the user-space. See **here** and **here** for my open-sourced work on A/B OTA upgrade solution.
- Developing/maintaining tools that facilitate debugging (of memory (heap)-leaks and heap-corruptions) on Android. See **SIGWINCH** - a libc wrapper in user-space, that I wrote, to trap malloc()/free() calls to detect memory-leaks.

### QUALCOMM | Software Engineering Intern
May 2014 - July 2014 | Hyderabad, India

- Worked on an optimization designed for the Android composition engine (SurfaceFlinger) and built a prototype for the same.

## PROJECTS

### CBIR USING LOCAL-TETRA PATTERNS ON HADOOP MAPREDUCE FRAMEWORK
Content-based Image retrieval (CBIR) is about retrieving images from dataset closest to user-specified query image. There were 3 stages involved: converting image-corpus to MapReduce's native SequenceFile type **(here)**, extracting image features from SequenceFiles and storing the features on Hadoop's Distributed FileSystem **(here)**, and then fetching the results to a user-specified query**(here)**. Also wrote a **image-viewer GUI** using Swing to view the results from a CBIR query. See [1] in Publications.

### WEIGHTED FINITE AUTOMATA ENCODING OF IMAGES
The idea was to explore how feature extraction from an image can be done using Weighted finite automata (WFA) encoding of the same image. WFA encoding is a technique primarily meant for image compression but my focus was on exploring its applicability on tamper-detection in images. See [2] in Publications.

### SAVE THE SESSION
**Save The Session** is a Chrome extension for saving user sessions and reloading them later. It has a little over 4000 active users. Take a look at the Github repo **here**.