

# Mrinalini Anand

6689, El Colegio Road, Apt #116  
Goleta, CA 93117

<https://www.linkedin.com/in/mrinalini-anand-23a785107>

mrinalinianand@umail.ucsb.edu

Ph: (805) 708 6303

## Education

---

**University of California, Santa Barbara**

**Expected Mar 2017**

**Master of Science, Electrical and Computer Engineering (GPA 3.62/4)**

Coursework: Advanced Computer Architecture, Mobile embedded systems - Android App development, Digital Image processing, Pattern recognition, Matrix analysis and computation. (Computer Imaging, Data Structures and Algorithms – Fall 2016)

**SSN College of Engineering, Anna University, India**

**Aug 2011-May 2015**

**Bachelor of Engineering, Electronics and Communications (GPA 8.29/10)**

Coursework: Digital Signal Processing, Digital Image Processing, Data Structures and Object Oriented Programming, Computer Architecture and Organization, Microprocessors and Microcontrollers, VLSI design, Probability and Random Process.

## Technical Skills

---

**Programming: C, C++, Java, JavaScript, HTML, Python, Android SDK, Verilog HDL, Matlab, Xilinx, Pspice, MySQL, CSS**

## Academic Projects

---

- **Image Registration** **May 2016**  
Designed an image registration system that mosaics a set of input images. Scale Invariant feature transform (SIFT) and Random Sample and Consensus (RANSAC) algorithms were used to eliminate the outlier points and generate homography.
- **DreamRun – A virtual reality based Android Application** **Mar 2016**  
Designed a unique android app that uses the mobile accelerometer to identify the running speed of a person working out on a treadmill and simultaneously offers a virtual reality based experience of user running in an outdoor environment. Sensor data transferred via Bluetooth to a display device enables adaptive video playback (corresponding to speed of the runner) using Google's ExoPlayer library.
- **Seam Carving for Content-Aware Image Resizing** **Mar 2016**  
Implemented this algorithm in Python to resize images while preserving the image content. The algorithm avoids stretching artifacts generally seen while using standard resizing techniques. As an extension to seam carving, I have used this technique to perform object retaining, object removal and content amplification in an image.
- **Representing ISCAS benchmark circuits with Binary Decision Diagram (BDD)** **Feb 2016**  
Wrote a program in C to obtain the BDD function of ISCAS benchmark circuits using CUDD package and PODEM's parsing logic. This function was used to calculate the number of minterms in the output and a visual graphical representation of the BDD was generated.
- **Automatic Test Pattern Generation(ATPG) for ISCAS benchmark circuits using SAT solver** **Jan 2016**  
Implemented SAT based automatic test pattern generator in C using PODEM's parsing logic and SAT package ZChaff by converting the given circuit into its Conjunctive Normal Form and checking for its Satisfiability.
- **Multi transform based Fusion for Multi Focus Images** **Feb 2015**  
Developed an algorithm using Matlab for fusing multiple images of the same scene captured from various viewpoints. Framework was compared with state of the art single transform methods and achieved a maximum of 54% reduction in error. Presented this work at the *International Conference on Communication and Signal Processing (ICCSP), India 2015*.

## Experience

---

- **Teaching Assistant, Department of Physics – UCSB** **Apr 2016-Present**  
Working as a teaching assistant for Analog electronics laboratory course.
- **Internship, CMBU ESO - VMware Palo Alto** **June-Sept 2016**  
Worked in the Cloud Management Business Unit as an Engineering Services and Operations Intern. Developed for the vRealize Suite in Java, JFX and Python. Worked cross functionally in an Agile/Scrum environment alongside Development and Product Management to provide high quality software solutions.
- **Internship, Council of Scientific and Industrial Research (CSIR), Chennai, India** **June-July 2014**  
Gained insight into novel automation systems employing machine vision algorithms. Learned to run the computer vision functionality of the system using Raspberry-Pi board.
- **Summer internship, National Institute of Ocean Technology, Chennai, India** **June-July 2013**  
Worked in the field of underwater communication and investigated the ambient noise characteristics in different ocean environments. Learned to calibrate hydrophones and transducers by using various measurement services.