

KAMESWARI DEVI AYYAGARI

4400 The Woods Drive, San Jose, CA-95136 | (801) 550 - 3153 | akdevi.92@gmail.com

EDUCATION

University of Utah

Master of Science in Computer Science

2015 - 2017

Project: Development and integration of an in-situ image compositor and raycaster into the S3D Direct Numerical Simulation system to run on the Oak Ridge National Laboratory's Titan supercomputer.

SASTRA University

Bachelor of Technology

2009 - 2013

Project: Analysis and design of a generalizable testing framework for multi function displays.

AWARDS

Spot award at Proscia Inc

January 2019– April 2019

Best employee of the year at Honeywell Technology Solutions Lab

January 2014 – December 2014

INDUSTRIAL EXPERIENCE

Proscia Inc

Research Engineer

December 2017 – May 2020

- Developed and validated a real-world deep learning pathology software system using techniques like multiple instance learning, confidence thresholding to enable faster diagnosis of skin cancer.
- Developed tools for image classification, stain normalization and image segmentation for digital pathology software systems using deep learning.
- Developed efficient visual interpretation techniques to explain the decisions made by deep learning classification systems.
- Designed and developed optimized deep learning development and deployment pipelines ensuring concordance with FDA guidelines for medical devices.

nView medical

Medical Imaging Scientist

July 2017 - November 2018

- Developed deep learning infrastructure to improve the quality of 3D tomographic medical images.
- Low latency tomographic imaging reconstruction system and method based on compressed data, multi-scale data representation, and computation. This method allows for real-time reconstruction over the cloud.
- Developed, profiled and optimized image reconstruction software for a medical imaging device that generates near real-time 3D reconstructions using cone-beam tomosynthesis fluoroscopy.

Honeywell Technology Solutions Lab

Software Developer

June 2013 - July 2015

- Developed a tool for automating graphics testing for cockpit displays. The tool uses an image comparison algorithm to compare images in the requirement to the images produced during execution of the software. The tool eliminates the effort

required to manually execute the test scripts, saving money, time and effort. A patent has been filed for the same.

- Developed a tool to extract features of the cockpit display. The tool automatically generates test scripts based on the requirements, executes the file on the simulation environment and generates results. A patent has been filed for the same.
- Developed a tool to generate test cases from model based requirements. The tool uses MATLAB to query the models, generates the code files for the models using HAM library. The tool also generates test cases for the model in a csv format. Another tool has further been developed to extract the test cases from the csv file into the format suitable for the execution environment (VB scripts, cpp scripts, python scripts).
- Analyzed, developed and implemented optimization techniques to reduce the cycle time for testing for the rehosting of software for EASE(Honeywell flight simulation environment)

Bhabha Atomic Research Center

Software Developer Intern

June 2012 - September 2012

Developed an algorithm for cross a compiler for arm pc and software postbox using socket programming.

ACADEMIC PROJECTS

University of Utah

- Predicting an airline's stock price based on on-time performance and twitter sentiment analysis
- A Convex Framework for Fair Regression
 - Proposing a convex family of fairness regularizers of varying strength that spans the spectrum from group to individual fairness.
 - Performing an empirical comparative study across numerous fairness-sensitive data sets to assess the price of fairness using the proposed fairness regularizers.
- Approximation guarantees for subspace clustering in the spirit of algorithms for k-means.

PUBLICATIONS AND PATENTS

- Ianni, J.D., Soans, R.E., Sankarapandian, S. et al. *Tailored for Real-World: A Whole Slide Image Classification System Validated on Uncurated Multi-Site Data Emulating the Prospective Pathology Workload*. *Sci Rep* 10, 3217 (2020). <https://doi.org/10.1038/s41598-020-59985-2>
- Devi Ayyagari, Nisha Ramesh, Dimitri Yatsenko, Tolga Tasdizen, and Cristain Atria "Image reconstruction using priors from deep learning", *Proc. SPIE 10574, Medical Imaging 2018: Image Processing, 105740H* (2 March 2018); <https://doi.org/10.1117/12.2293766>
- "Multi-scale image reconstruction of three-dimensional objects." Patent filed Sep 14, 2018 Patent issuer and number: us US 16/572,479.

LANGUAGES

- English— speak fluently and read/write with high proficiency
- Telugu— native language
- Tamil and Hindi—speak, read, and write with basic competence

AFFILIATIONS:

- Managing director, Canopy-An entrepreneurship lab run by students.
- Columnist for Nibble CSE, the Quarterly Department Tabloid .
- Member of the Editorial board for Department Magazine Cypher
- Organizer of GLOSS- An open source community at SASTRA.

VOLUNTEER

- Volunteer at the camp "Healthy Youth for a Healthy India" as a part of the National Service Scheme (NSS).
- Organised a drawing & painting competition in a school in Vallam as a part of the SASTRA School Adoption Program.
- An active member in a project named SCORE that is a part of adopting a village and focusing on providing primary education and employment facilities to the villagers.