

Chulabhaya Wijesundara

chulabhaya.com | <https://www.linkedin.com/in/chulabhaya-wijesundara/>

Education:

University of Massachusetts Amherst

- Master of Science in Computer Science
- Bachelor of Science in Computer Engineering, Commonwealth Honors College, 3.83 GPA

Anticipated May 2020
May 2018

Relevant Courses:

Computer Vision; Neural Networks; Image Processing; Software Intensive Engineering; Signals & Systems; Probability & Random Processes

Relevant Work Experience:

Computer Vision Engineer Intern, ASML

June 2018 – August 2018

- Improved accuracy and capability of the Target Formation Monitor module
- Developed new algorithms and techniques for image cleaning, morphology classification, and thresholding in MATLAB
- Developed deep learning model to identify tin droplets by finetuning COCO pre-trained CNN model using TensorFlow
- Created and presented technical documentation for work

Relevant Projects:

DroneNet, Senior Design Project

September 2017 – May 2018

- Working in a team of four to develop a prototype of a drone-defined communications network to be used in disaster relief scenarios
- Created ad-hoc mesh network that runs on several Raspberry Pis to enable synchronization and communication among several drones, utilizes the B.A.T.M.A.N. routing protocol; Wi-Fi enabled devices are also able to connect and communicate across this network
- Network allows drones to coordinate in the air, allowing for in-flight, autonomous adaptation
- Programming done mostly in Python and Bash

Image Processing using Altera DE1-SoC, Computer Systems Lab II

Spring 2017

- Worked in a team of three to implement multiple image processing tasks (such as rotating, showing difference between two images, detecting edges, etc.) using Altera DE1-SoC
- Images were captured using interfaced Terasic D5M camera, compressed with an RLE encoding program written in Verilog, then decompressed using program written in C to reproduce original image

Research Experience:

Using Smartphones To Determine Ambient Temperature, Honors Thesis

March 2017 – May 2018

- Developed regression-based machine learning model to allow smartphones to predict ambient air temperature, based on their own sensor data, as accurately as possible
- Developed a data-logging Android app in Java using Android Studio for gathering specific sensor and usage data
- Developed Android app that implemented machine learning model using the Weka Java API
- Awarded funding from Honors College for research through successful grant proposal

Alexa-based Intelligent Tutoring System For Teaching Ladder Logic Programming, REU

May 2017 – August 2017

- Member of Texas A&M University's Interdisciplinary REU in Mechatronics, Robotics, and Automated System Design
- Designed and created prototype of an Amazon Alexa-based intelligent tutoring system that utilized voice conversation to teach counter instructions in ladder logic programming
- Programmed in Python, utilized AWS Lambda for hosting and AWS DynamoDB for databases
- Prototype was certified by Amazon and is available for public download and use on the Alexa Skills Store

Technical Skills:

- Programming Languages: MATLAB, Python, C, Java, HTML/CSS
- Applications: Git, MATLAB, PSPICE, Atmel Studio, Quartus Prime, Eclipse, Android Studio, Weka
- General: Soldering, using test equipment (oscilloscopes, multimeters)
- Other: TensorFlow, Amazon Web Services (Lambda, DynamoDB), Alexa Voice Service (AVS), Linux

Activities & Awards:

- Awarded ECE Award of Excellence
- Awarded James Owen Pearson Scholarship
- Awarded Robert and Charlotte Jackson Scholarship

May 2018
August 2017
September 2016