Shashank V. Mahesh

(408)-921-8963

Santa Clara, CA

smahesh3@illinois.edu

EDUCATION

Bachelor of Science in Computer Engineering Expected Graduation: 2022

Freshman in ***Honors*** & the ***Dean's List*** at the University of Illinois at Urbana-Champaign

Technical GPA: 4.00/4.00 UIUC GPA: 3.89/4.00

SKILLS

Languages:	Java, Python, C, Scheme, Swift, SQL, HTML/ CSS, JS
App Development:	JavaFX, Android, iOS, Angular JS, React JS, PyTorch, OpenCV, Fastai
Other Skills:	JUnit Testing, Altera Quartus, Git, AWS

PROJECTS

Selected projects only listed (Github - *github.com/Shashank-Mahesh*)

MODIS Cloud Detection Algorithm (*2nd place overall in NVIDIA NCSA Hackathon*) — Spring 2020

- Implemented a cloud detection algorithm using machine learning. Dataset consisted of multiple 64 x 64 pixel aerial images, where each pixel contained 43 properties (i.e. infrared image, Refraction angle, etc).
- Used Principal Component Analysis to determine the "n" most useful bands, and then trained a model that used Logistic Regression.
- Achieved an accuracy of 97.5% (NASA achieved an accuracy of 96.8%). ***Used Python, Pandas.***

Weednet — Winter 2020

- Implemented a module that used supervised deep learning to detect and categorize plants as either plant or weed. Utilized Nature's dataset of 17,000 images and ran a 100 layer Residual Neural Network.
- Achieved 98.04% efficiency (Nature achieved an accuracy of 95.7%). ***Used Python, Pandas, AWS.***

Portfolio website *(shashank-mahesh.github.io/site)* **— Winter 2020**

- Used React JS and React-mdl to build a personal website. Please check out the website for a list of projects I have worked on.

Emergen-Speech — Fall 2018

- Developed an Android app to provide first aid to patients before medical help arrived. The app used speech recognition and text analysis and sent the current state of the patient to a remote server (describing the current symptoms etc.). The server then fetched results from Internet and used the "Beautiful soup" library to filter relevant data that suggested possible first aid to the patient.
- ***Used Android, Python, Beautiful soup***

Fact or Fiction? — Fall 2017

- Designed an Android app that used machine learning algorithms to determine the credibility of sources given training data. Given a source URL, the app would determine how credible the source is based on the Author, site, etc… The dataset used was very small, so unsupervised learning was implemented on a model that used the kNN algorithm.
- ***Used Java, Python, PyTorch***

A Little Language to Program the Raspberry Pi — 2017 Synopsys Science Fair.

- Designed a framework that helped students to learn about Raspberry Pi. Defined a grammar for a little language that allowed users to describe their circuits in a simple custom language.
- A circuit consisted of a fixed set of components (like LEDs, Timers, Switches, Resistors etc.). Each component supported some operations (like On / Off, or Sleep etc.). The Framework then parsed the input language and guided users about how to wire them (including the correct resistors etc.).
- Implemented a recursive-descent parser and event-based Programming Model. ***Used Java***

RELEVANT COURSEWORK (AT UIUC)

Analog Signal Processing	Introduction to Computing	Introduction to Differential Equations Plus
Discrete Mathematics	Introduction to Electronics	Computer Systems Programming

EXTRACURRICULARS & LEADERSHIP

Carnatic Vocal Music — 2007 - Present

Currently learning advanced Carnatic vocal music, & regularly perform at various SFO Bay Area venues. Have competed and won prizes in Cleveland Thyagaraja Aradhana and several other competitions.

Member of Combotics Team at IRobotics UIUC — 2019 - Present

Building a robot to compete in RoboBrawl 2020 (an inter-university competition like BattleBots).

Teaching Assistant at Gandharva Vidya Center — 2012 - 2019

Have been assisting my Carnatic music teacher in training beginner and intermediate level classes.

Robotics Captain & Technical Lead for FTC Team — 2016-2017

Built a robot to compete in FIRST FTC, and led team to semi-finals.