Sidharth Lakshmanan

Computer Engineering Student at the University of Washington

As a computer engineer, I strive every day to improve upon my embedded systems and lower-level programming knowledge. As an engineering-minded, highly motivated student, I bring fresh new perspectives and clever new ideas wherever I go.

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EDUCATION

Computer Engineering
University of Washington, GPA: 3.92

09/2019 – Present (Expected: 06/2023)   *Seattle, WA*
Relevant Courses

- CSE 333, Systems Programming (C/C++)
- CSE 474, Embedded Systems
- CSE 332, Data Structures and Parallelism
- Math 308, Linear Algebra
- CSE 163, Data Science in Python
- CSE 312, Statistics for Computing

EXPERIENCE

EcoCar UW
University of Washington

09/2019 – Present   *Seattle, WA*
US Department of Energy and General Motors competition to covert a gasoline vehicle to a hybrid electric vehicle with Level 2 autonomy.
Achievements/Tasks

- Implemented controls algorithms to maximize the efficiency of the car using MATLAB, Python, and C
- Programmed the interface to allow external sensors to convey information to the propulsion controls of the car
- Built a sensor fusion algorithm to implement adaptive cruise control with lane following capabilities
- Applied Bayesian and Kalman Filter techniques to account for sensor error when using sensor data for implementing autonomy

SEAL Laboratory Researcher
University of Washington

12/2020 – Present   *Seattle, WA*
Researcher at the Sensors, Energy, and Automation Laboratory currently working on a 3D modeling technology to help patients with stoma.
Achievements/Tasks

- Designing a Video to 3d model pipeline to allow stoma patients to easily create 3d models and customized wafer patterns for their stoma using their cell-phone cameras
- Designing a phone app to allow the process of creating 3d models and wafer patterns to be as simple possible
- Performing literature reviews and writing technical documents for funding

Software Development Intern
ECSite App

06/2020 – 09/2020   *(Worked Remotely) Seattle, WA*
A tech-startup aiming to install 5G in various public places like stadiums and hospitals.
Achievements/Tasks

- Designed and built a React form that would be able to handle customer orders
- Implemented a webserver using Express to communicate large (10 GB) files to AWS S3 and verify ReCAPTCHA
- Created a generic tailored React form template for use in future forms

SKILLS

Java | C/C++ | Google Cloud Platform | React.js | Python | R | MATLAB

PROJECTS

Search Engine (C/C++)
10/2019 – Present

- Created a multi-threaded search engine to search for a given word in thousands of files quickly and efficiently
- Sorts the files in terms of frequency of the target word(s)
- Implements a linked list and hash table in C
- Uses TCP to communicate HTML data to render the UI of the search engine.
- (Has not been deployed)

Climate Change Project
08/2016 – 05/2018

- Founder and lead designer of this project to create a wind-powered phone charger.
- Presented a prototype of this creation to 50 middle-schoolers to inspire them to help against climate

OTHER ACTIVITIES

University Chorale   *09/2019 – Present*
Highest-level non-major choir at the University of Washington. We sing a diverse range of music around the Greater Seattle Area.

Woof3D   *09/2019 – Present*
3D printing club at the University of Washington. Here, I build and program 3D printers from scratch.

IBM Qiskit   *10/2019 – Present*
IBM's quantum computing solution that allows participants to code algorithms in the Qiskit language

CERTIFICATES

Google Cloud Architect	*04/2020*
IB Diploma	*05/2018*
AP Scholar	*05/2019*