Sachinda Edirisooriya

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Experience

UCSD CSE MS Researcher **Aug 2021 - Present**
Conducting research at the intersection of vision and language advised by Hao Su and Taylor Berg-Kirkpatrick

Undergraduate Honors Research Program at UCSD **Sep 2020 - Jun 2021**
Conducting independent research in the field of optical music recognition advised by Taylor Berg-Kirkpatrick

- Designed a new state-of-the-art approach to end-to-end optical music recognition using PyTorch
- Work to be published in International Society for Music Information Retrieval (ISMIR) 2021

Computer Architecture Intern at NVIDIA **Jun 2020 - Sep 2020**
Developed infrastructure to improve safety and security of the Tegra SoC

- Wrote scripts with Python to implement new flows into chip build process and to improve safety efforts

Intern at mCube **Aug 2019 - Sep 2019**
Tested sensors for precision and reliability

- Tested power delivery and linearity of gyroscopes

Projects

Yip (SWE Course Project) **Mar 2020 - Jun 2020**
Worked in a team with nine others to create an online community-driven review platform inspired by Reddit
https://gitlab.com/cse110-sp20/yip

- Developed using the Rust, React, PostgreSQL, and hosted using AWS EC2
- Wrote entire backend including API/database functions using Rust, and architected the application

Mile High Restaurant (HackXR 2019 - Grand Prize Winner) **May 2019**
Created a game in virtual reality in 48 hours that brings the user a high-intensity cooking experience
https://devpost.com/software/mile-high-restaurant

- Developed using the HTC Vive, SteamVR, and Unity
- Wrote scripts using C# and designed the gameplay/models

IEEE Autonomous Line-Following Vehicle (2nd Place Track Performance) **Oct 2018 - Jun 2019**
https://github.com/sachindae/IEEE-Autonomous-Line-Following
Worked in a team with four others to create an autonomous line-following vehicle

- Developed using an Arduino Uno, line scan camera, and servo
- Wrote algorithms using C++ to filter raw data from camera and follow the line at high speeds

SpeakCode (SDHacks 2019) **Oct 2019**
Created a web IDE for Javascript using Express that provides users the ability to code with their voice
https://devpost.com/software/speakcode

- Developed using Node.js, Microsoft Azure API, and hosted on AWS Beanstalk
- Wrote code to link the front-end and back-end as well as language processing algorithms

Lead Autonomous Software Developer for FRC Robotics Team **Aug 2016 - May 2018**
Led the development of the autonomous control of a robot for FRC

- Designed algorithms utilizing cameras, gyroscopes, accelerometers, and sonar with Java and OpenCV
- Taught new programmers basic software engineering practices

Skills/Awards

Languages/Software: Java, Python, C/C++/C#, Rust, JavaScript, Assembly, PyTorch, Unity, OpenCV
WIC Beginner's Programming Competition 2nd Place (UC San Diego) **Dec 2018**
Computer Science Student of the Year (Corona del Sol High School) **2016, 2017**
Corona del Sol High School Valedictorian (Class Size ~ 700) **May 2018**

Education

MS Computer Science (Thesis Based), UC San Diego **Sep 2021 - Apr 2023**

BSc Computer Science, UC San Diego (3.9 GPA) **Sep 2018 - Jun 2021**

***Relevant Courses*:** Computer Vision, Deep Learning, Advanced NLP, ML for Robotics, Machine Learning, AI Search and Reasoning, Recommender Systems and Web Mining, Computer Graphics, Operating Systems, Computer Networks, Computer Security, Computer Architecture, Advanced Data Structures/Algorithms, Programming Languages: Principles/Paradigms

Publications

- **Sachinda Edirisooriya**, Hao-Wen Dong, Julian McAuley, and Taylor Berg-Kirkpatrick, "An Empirical Evaluation of End-to-End Polyphonic Optical Music Recognition," Proceedings of the 22nd International Society for Music Information Retrieval Conference (**ISMIR**), in press, 2021.