

Yuchen Yao

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EDUCATION

University of California, Los Angeles (UCLA)

Sep 2018 - Jun 2022

Bachelor of Science in Mathematics of Computation

Core Courses: Operating System, Machine Learning, Algorithms, Mathematical Modeling, Applied Numerical Methods, Mathematical Imaging, Artificial Life, Numerical Analysis

EXPERIENCE

Amazon

Seattle, WA

Software Dev Engineer Intern

Jun 2021 - Sep 2021

- Designed, implemented and tested a new feature that enables complicated user attribute in Java for Cognito Identity
- Worked with multiple teams to design, implement and integrate the new feature to existing system
- Conducted unit tests and integration tests on the new feature with JUnit and TestNG to ensure that it functions both in isolation and in the whole system

NortonLifeLock

Los Angeles, CA

Software Engineer Intern

Apr 2020 - Sep 2020

- Developed a continuous integration system using Azure DevOps to automate build and test process to replace the Jenkins system that was used by the iOS team
- Integrated Rome to Carthage workflow to better cache build process and thus sped up the whole build process by 5x
- Researched various functions and APIs in fastlane and Azure DevOps to provide the team a better estimate of whether a new feature, e.g. machine health monitor, should be included

Symantec

Los Angeles, CA

Software Engineer, Mobile Intern

Jun 2019 - Sep 2019

- Developed middleware of a security product for Android platform using Kotlin, Java, and JavaScript to bridge communication between cloud service and the mobile app
- Prototyped a proof of concept app for iOS platform using Swift, JavaScriptCore, and WKWebView to test asynchronous loading capabilities on iOS
- Thoroughly tested their performance impact on the product using android studio profiler and other automation tools

Structures-Computer Interaction

Los Angeles, CA

Undergraduate Researcher

Mar 2021 - Present

- Researched, tested and tuned simultaneous localization and mapping (SLAM) framework Cartographer for better performance on an agricultural robot
- Designed and performed tests to assess performance of SLAM algorithms in Gazebo simulator using ROS

PROJECTS

IEEE Autonomous Unmanned Aerial Vehicles Competition

Sep 2021 - Present

Unmanned Aerial Systems at UCLA

- Designed, implemented and tested drone software for indoor navigation and vehicle tracking
- Researched and implemented a vehicle tracking algorithm that utilizes optical flow and Levy flight to achieve better accuracy and real time processing on flight computer

Autonomous Vehicle Infinite Time Apparatus

Jul 2020 - Present

University Student Research Challenge (NASA sponsored)

- Designed and built software and hardware systems that enable a drone swarm to lift and transport load indefinitely
- Researched, designed and implemented a mesh network communication system based on Greedy Forwarding and Limited Flooding algorithms that is better suited for dynamic routing ad hoc network

Association for Unmanned Vehicle Systems International

Jan 2019 - Present

Unmanned Aerial Systems at UCLA

- Designed, manufactured, and tested software and hardware systems for carrying out mock search and rescue mission
- Built the communication link between various parts of the system and added UI features on React frontend to access these features to control the drone

PROGRAMMING SKILLS

Languages

Java, Python, C++, C, Kotlin, Swift, Javascript, MATLAB, HTML, PHP 5, CSS, JSON, Bash

App Development

Android, iOS, TestNG, JUnit, Git, Guice

Web Development

AWS Coral, Socket.io, React, webpack, Protocol Buffers, Node.js, OLSR

Robotics

ROS, Gazebo, Cartographer