

Alex Yang

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EDUCATION

- **Georgia Institute of Technology** Atlanta, GA
B.S./M.S. Program - Computer Science; GPA: 4.00/4.00 August 2019 – May 2023
Relevant Coursework: Data Structures and Algorithms for Applications, System and Networks, Prototyping Intelligent Appliances, Machine Learning, Digital Design Lab, Design and Analysis of Algorithms, Robotics and Perception, Research Capstone Project

EXPERIENCE

- **Georgia Institute of Technology** Atlanta, GA
Undergraduate Researcher Sep 2020 – Present
 - Led the development team of CardiacAR, a research project in cooperation with Children's Healthcare of Atlanta aiming at creating an iOS application based on ARKit to assist surgeons with surgical planning in an augmented reality environment.
 - Led the development team of Argo, an interactive web system based on ReactJS and D3.js for graph visualization and Semantic Scholar literature network exploration. Currently implemented as a learning tool in CSE 6242 (Data and Visual Analytics) at Georgia Tech.
- **CityLift Parking** Oakland, CA
Software Engineering Intern Oct 2018 – May 2019
 - Developed a native Android application showcasing the mechanism of the automated vehicle parking system.
 - Conducted research on an innovative linear lift design based on CAD modeling to improve its performance and efficiency.

PROJECTS

- **Universal Drone Controller - A new input method of controlling and monitoring UAVs based on Leap Motion hand gesture recognition:**
 - Utilized DJI Mobile SDK to extract flight control data including the aircraft principal axes (pitch, roll, yaw) and x, y, z coordinates in 3-D space.
 - Data processed through DJI's computer vision algorithms were synchronized with the Leap Motion hand gesture input in real-time through a web server.
- **TripUCan - A web-based planner for organizing travel information and saving geo-tagged data:**
 - Utilized React/React Native to develop and implement UI components and achieve fast cross-platform deployment.
 - Imported accurate real-time geological data from Google Map APIs for route planning and destination information.

PUBLICATIONS

- **Interactive Cardiovascular Surgical Planning via Augmented Reality** Asian CHI 2021
Jonathan Leo, Zhiyan Zhou, Haoyang Yang, Megan Dass, Anish Upadhayay, Timothy C. Slesnick, Fawwaz Shaw, and Duen Horng Chau
- **Argo Scholar: Interactive Visual Exploration of Literature in Browsers** IEEE VIS 2021
Kevin Li, Haoyang Yang, Anish Upadhayay, Zhiyan Zhou, Jon Saad-Falcon, Duen Horng (Polo) Chau

SKILLS

- **Programming Languages:** Swift, Java, JavaScript, Python, C, C++, SQL, HTML/CSS
- **Web Development:** Node.js, jQuery, D3.js, React, Bootstrap
- **iOS Development:** UIKit, SwiftUI, ARKit, RealityKit, SceneKit
- **Machine Learning:** TensorFlow, OpenCV, PyTorch, scikit-image, scikit-learn
- **Tools:** Xcode, Android Studio, VSCode, IntelliJ, Autodesk Inventor, Git
- **Hardware:** Device Prototyping (Arduino, Raspberry Pi), FPGA Design, Circuit Design

EXTRACURRICULAR ACTIVITIES

- **Billiards @ Georgia Tech** Atlanta, GA
Founder & Vice President Sep 2019 – Present
 - Designed and published an online ranking server for on-campus competitive matchmaking system.
- **RoboJackets** Atlanta, GA
Firmware Lead August 2019 – May 2020
 - Designed and modified a firmware program for Sumo Robot in a Robowrestling tournament.