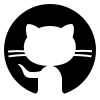
**Garrett**

(412)-897-5699 (cell)



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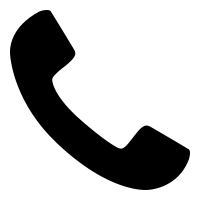
garretthagen21

2121 Grand Ave

San Diego, CA 92109

garretthagen21@gmail.com

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**Hagen**

**EXPERIENCE**

***Apple Inc –*** Apple TV App

*iOS Software Engineer (July 2022-Present)*

* Creating and innovating exciting user experiences for the TV App on iOS, tvOS, macOS, and visionOS

***Dexcom Inc –*** Continuous glucose monitoring systems

*Software Development Engineer II (August 2020-July 2022)*

* Assumed leadership role in implementing Bluetooth LE support for nex-gen transimitters in iOS core communication module
* Developed program to simulate mobile device usage scenarios and collect BLE connection statistics

***Gener-8*** - FDA approved CPM self-rehabilitation devices

*Software Development and Hardware Design (2016-Present*)

* Developed multi-threaded firmware for Raspberry Pi to control second-generation Gener-8 machine with support for wireless updates, real-time angle calibration, and improved LED feedback
* Designed and integrated system that calculates knee flexion and rotation angle and transmits results in real-time via Bluetooth LE
* Utilized Firebase and Vidyo API to develop Swift/Obj-C iOS app that communicates with Gener-8 machine for at-home rehab progress monitoring between patient and therapist, instant messaging, and video chat

***Carnegie Robotics*** –Advanced robotics sensors and platforms

*Co-op (Fall 2019)*

* Created and maintained a sizeable C++ framework to reduce boilerplate code and provide convenient, common features for projects that utilize stereo camera functionality
* Developed and integrated C++ library for colluminated LED backlight panel to be used in MultiSense lens fitting processes
* Created C++ application to assess the quality of extrinsic and intrinsic calibrations for MultiSense cameras using OpenCV, Ceres-Solver, Boost, and GTest
* Developed a modified firmware in C and a GUI in Python to verify the functionality of MultiSense PCBs prior to the start of assembly
* Refactored existing production software to build and deploy via Docker and improved dependency handling with CMake

*Co-op (Spring 2019)*

* Utilized Qt and OpenCV to develop an interactive C++ GUI that demonstrates concurrent left/right grayscale, color, and disparity image streaming on all MultiSense camera models
* Integrated functionality to existing manufacturing software that enforces the use of a specified version using CMake and Git

*Co-op (Summer 2018)*

* Utilized ROS and OpenCV to develop a Python GUI application that simultaneously collects, organizes, and stores data from a diverse set of stereo and depth cameras

***iRevive*** – Mobile Phone and Computer Repair

*Founder (2013-2020)*

* Self-taught technician with 200+ successful repairs

***For You Inc*** – Manufacturers of Duraband® and other exercise devices

*Product Designer (2012-2015)*

* Designed and received patent for Durabat® baseball training device (used by multiple professional baseball players)

**EDUCATION**

***University of Pittsburgh*** – Main Campus Pittsburgh, PA

BS in Computer Engineering *(Fall 2016 – Summer 2020)*

Pitt Engineering Dean’s Honor List(*Fall 2017 – Present*)

*Major GPA – 3.82 / 4.0 • Cumulative GPA – 3.55 / 4.0*

***Pitt Computer Engineering Coursework***

Data Structures (*Java*), Algorithms (*Java*), Object Oriented Programming (*Java*), Mobile Robot Platforms (C++/Python), Machine Learning (*R*), Operating Systems (*C*), Computer Architecture (*C, MIPS*), Computer Networks (*C*), Software Quality Assurance (*Java*), Intro to Web Development (*Python, JavaScript, HTML, CSS*), Software Engineering (*Java*), Advanced Digital Design, Electronic Circuits Lab

***Pitt Math Coursework***

Linear Algebra, Probability and Statistics, Differential Equations, Calculus 1 & 2, Physics 1 & 2



**COMPUTER SKILLS**

***Languages*** – Swift, Python, Java, JavaScript, C++

***Software/Tools/Frameworks*** – Git, Firebase, UIKit, Xcode, SwiftUI, Pandas, Docker, CMake, OpenCV, GTest, Appium, JUnit, Ceres, AutoDesk Inventor

***Operating Systems*** – Linux, macOS, Windows, ROS



**PROJECTS + OPEN SOURCE**

***wpa-pyfi*** *(2021)* – Developed open-source Python package for Raspberry Pi to programmatically manage Wifi network connections and settings via CLI or library integration. Available on PyPi index: www.pypi.org/project/wpa-pyfi

***OmniBot*** *(2020)* – Developed omnidirectional robot with student-led team to fulfill requirement for senior capstone project. Developed iOS app and Bluetooth LE communication protocol to control the robot via gesture recognition, joystick, or autopilot.

***Biometric Lock*** *(2019)* – Developed Swift iOS App which communicates via Bluetooth LE with Arduino that controls fingerprint scanner and solenoid lock. Designed all software/circuitry and rendered custom enclosure to house electronics in door frame

***Industrial Arduino*** *(2017)* – Created a custom PCB shield in Altium Designer for use in a waterproof Arduino Enclosure



**VOLUNTEERING**

***HCEF Instructor*** *(2019 - 2020)* – Taught basic computer science to middle school students experiencing homelessness