

WORK EXPERIENCE



TOMORROW LAB, NY

Electrical Design Engineer

Jun 2021 - Now

- Design, develop, and fabricate electrical systems (**PCBs**) and their dedicated **firmware**, for companies big and small, in a **lab-style** environment.
- As a part of a multidisciplinary team of engineers and designers, develop first-of-its-kind products from prototype to market-ready, for clients like **Nerf**, **IMAX**, and **Citizen**. Worked closely with Citizen's software engineering team for **BLE app integration**.
- Core tools and techs: **EE lab equipment**, **Autodesk Eagle/Fusion**, **STM32**, **nRF52**, **AVR**, **Segger**, **VSCode**, **C** and **C++**, **Git**, and more.
- Manage **eBOM** — research, test, source, and procure components (standard or custom). Worked with PCBA vendors to get **turnkey PCBs** fabricated.
- Hands-on experience interfacing electrical systems with 3D printed/machined/manufactured **mechanisms and housings** and conducting their **electromechanical performance analysis**.
- Co-host of "Potentially Genius", an **educational** YouTube series, partnering DigiKey, where we rapidly prototyped whimsical inventions on camera.



NEW YORK UNIVERSITY, NY

Graduate Assistant (OK Robot Reboot) Jan - May 2021

- Assisted Prof. Pedro Oliveira with an undergraduate course on human-AI interaction, voice interfaces, machine vision, and robots. Taught and prepared materials related to **Raspberry Pi**, **OpenMV**, **IBM Watson**, **SSML**, **Python**, **Node.js**.



SOUTH CHINA MORNING POST, HONG KONG

Salesforce Developer

Oct 2018 - Aug 2019

- Retired two legacy sales systems within the designated 9-month timeframe by integrating them into one Salesforce **SalesCloud** system in coordination with the system vendor, using **Apex**, **SOQL**, **HTML**, **Javascript**, **SLDS**.



CCCDI LTD., HONG KONG

Engineering Intern

May 2017 - July 2017

- Created 3 data visualization **AR** apps in **C#** utilizing **Vuforia** on **Unity**.

AWARDS AND ACHIEVEMENTS



MIT ENTREPRENEURSHIP & MAKER SKILLS INTEGRATOR

Champion, Engineer, Design Lead

Jan - Feb 2018

- Competed against 4 other teams of entrepreneurs to win "Best Product & Business Idea". Demoed prototype and presented GTM strategy to VC judges.



DISNEY IMAGINATION DESIGN COMPETITION

Finalist, Team Leader

Oct - Nov 2016

- Designed a "public recreation space" based on Disney design principles and IP

EDUCATION

NEW YORK UNIVERSITY

Sep 2019 - May 2021

MPS, Interactive Telecommunications (ITP)
4.0 GPA, Tisch Scholarship, Red Burns Scholarship

CITY UNIVERSITY OF HONG KONG

Sep 2014 - May 2018

BSc, Creative Media
Valedictorian, Dean's List

SKILLS

ELECTRICAL ENGINEERING

STM32, BLE (Nordic nRF52), C/C++
PCB schematic & layout design (Eagle/Fusion 360)
Low power circuit design & optimization
Motor control, LED control, Loadcell
Data processing and Algorithm design
Manual PCB assembly, reflow, soldering
EE Lab equipment (bench power supply, multimeter, oscilloscope, microscope, CNC)
I2C, Arduino, Raspberry Pi

HARDWARE PROTOTYPING

Fusion 360, FDM & SLA 3D Printing, Machine Shop tools

SOFTWARE DEV

Salesforce, MERN, Socket.io, JAVA, C#, Python, SQL, Linux

SOFTWARE DESIGN

UX Design (*Figma*), Adobe CC

EMERGING TECH

TensorFlow, VR/AR (*Oculus*, *Unity3D*)

SELECTED PROJECTS

Salt Stone (client project @ Tomorrow Lab) 2022

Patented battery-powered microscopic salt grinder/dispenser for salt therapy at home
STM32, Eagle PCB, Firmware/UX Design, LED & Motor Control, DC/DC Converter, LDO
indiegogo.com/projects/salt-stone-naturally-cleanse-r-espiratory-airways--2#/

BankHeist 2021

Tangible interface for signing physical documents remotely over the internet in real-time
IoT, Socket.io, Express.js, Crypto.js, Electron.js, Serialport.io
jasontsemf.github.io/bankheist.html

OptiMice 2019 - 2021

Novel online tailoring pipeline that offers bespoke computer mice for tackling biased interface design
AI, 3D Printing, BLE, PCB Design, MERN
jasontsemf.github.io/optimice.html