

## WORK EXPERIENCE



### TOMORROW LAB, NY

*Electrical Design Engineer*

Jun 2021 - Now

- **Capture Schematics, design PCB Layouts, bring up prototypes, and develop dedicated firmware**, 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**.
- Trained and supervised electrical engineering intern for 4 months.
- 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 by integrating them into one Salesforce **SalesCloud** system, 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 (Computing)  
Valedictorian, Dean's List

## SKILLS

### ELECTRICAL ENGINEERING

STM32, BLE (Nordic nRF52), C/C++

IoT System Design

Schematic Capturing & Layout Design (Eagle/Fusion 360)

Low power circuit design & budgeting

Data processing and Algorithm design

PCB manual assembly, reflow, soldering

EE Lab equipment (bench power supply, multimeter, oscilloscope, microscope, CNC mill)

UART, I2C, SPI, FTDI, ICSP

### 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

## 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, LED & Motor Control, DC/DC Converter, LDO

[myfriendthesea.com](http://myfriendthesea.com)

### The Mint (client project @ Tomorrow Lab) 2022

Hair styling wand with motorized and heated hair product dispensing for textured hair

Geared Motor, NTC, Metal Ceramic Heater, PID Control  
[richualist.com](http://richualist.com)

### Unpublished project @ Tomorrow Lab 2023

Usage tracking IoT device

nRF52, Rigid Loadcell, Soft Strain Gauge, MEMS microphone, Eagle PCB, Firmware/UX

### OptiMice

2019 - 2021

Novel online tailoring pipeline offering bespoke computer mice for tackling biased design

AI, 3D Printing, BLE, PCB Design, MERN stack

[jasontsemf.github.io/optimize.html](http://jasontsemf.github.io/optimize.html)