Jason (Man Fung) Tse

Electrical Design Engineer | Hardware Prototyping Engineer

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STM32, nRF52, Eagle/Fusion

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 **Bluetooth Low Energy 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.
- **Design for manufacturing** — Optimize PCB layout design, component selection, and incorporate self-test features, for streamlining assembly process, cost reduction, and lowering risk of manufacturing defects.
- 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. 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 legacy sales system with **SalesCloud**, using **Apex, SOQL, Javascript.**

CCCDI LTD., HONG KONG
XR 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++, RTOS (Zephyr)
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 (down to 0201)
EE Lab equipment (power supply, DMM, 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

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

Unpublished project @ Tomorrow Lab　2023
Low Power 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/optimice.html