

# Yung Chak Anson Tsang

<https://masteranson.github.io> | [yt7788@princeton.edu](mailto:yt7788@princeton.edu) | Native Languages: English, Mandarin, Cantonese

## Education

### Princeton University

*PhD in Materials Science and Civil Engineering*

**Princeton, NJ**

*Expected Spring 2028*

### Georgia Institute of Technology

*B.Sc. in Mechanical Engineering, Minor in Scientific and Engineering Computing*

**Atlanta, GA**

*Spring 2023*

## Work Experience

### Thermal and Optics Lab

*Graduate Research Assistant*

**Princeton, NJ**

*Aug 2023 – Current*

- Designing nanophotonic structures using computational and experimental techniques to achieve targeted spectral and spatial control of thermal radiation

### Tesla Inc

*Battery Engineering Intern*

**Palo Alto, CA**

*May 2022 – August 2022*

- Directly responsible for structural failure calculations and test data analysis on passive propagation resistance for the Model Y car's structural battery pack program
- Spearheaded various cost-down mechanical redesigns and piloted the designs with Chinese manufacturers for potential savings of >20 million for FY23

### Apple Inc

*Display Product Design Intern*

**Cupertino, CA**

*May 2021 – August 2021*

- Developed a conjugate heat transfer model for the Apple Watch Ultra display module
- Investigated various mechanical design and packaging strategies to maximize screen brightness under different use conditions

### AMPD Energy

*Mechanical Engineering Intern*

**Hong Kong Science & Technology Park, HKSAR**

*May – August 2020*

- Created multi-physics and conjugate CFD thermal models to analyze and optimize cooling system design
- Root-caused and resolved various production and launch related issues with OEMs
- Spearheaded various mechanical re-designs and reduced overall weight by >200kg

### KT Lucid LLC – Signet/Championship Rings Manufacturer and Retailer

*Co-Founder*

**Shrewsbury, MA**

*October 2017 – May 2020*

- Designed, manufactured, and sold custom signet rings to boarding schools and universities in the United States and Japan

## Selected Projects and Leadership

### HyTech Racing

*President (Previous: Lead Electric Drives Engineer 2019-2021)*

**Atlanta, GA**

*June 2021 – June 2022*

- Lead team of 120 undergraduate/graduate students to develop, build, and test a fully electric race car, achieving 3<sup>rd</sup> overall at Formula Michigan 2022
- Spearheaded the development of a custom 300V  $LiCoO_2$  battery pack with 120kwh/kg specific energy and 60kW of peak power

## Selected Publications and Conferences

- Kieu, H., **Tsang, Y.C.A\***, Zhou, K. *et al.* Evaporation Kinetics of Nano Water Droplets using Coarse-Grained Molecular Dynamic Simulations. *International Journal of Heat and Mass Transfer* **156**, 119884 (2020)
- Li, L., **Tsang, Y.C.A.**, *et al.* Phase-transition tailored nanoporous zinc metal electrodes for rechargeable alkaline zinc-nickel oxide hydroxide and zinc-air batteries. *Nature Communications* **13**, 2870 (2022)
- **Tsang, Y.C.A.**, Varghese, N.J., *et al.* "Porous polymer bilayer with near-ideal solar reflectance and longwave infrared emittance." *Nanophotonics* **13**, 669-677 (2023).
- **Tsang, Y.C.A.** Broadband Directional Control of Radiative Heat Flows Through Micropatterning. *Conference on Lasers and Electro Optics, SFII* (2024)

\*Co-first author