

# Youssef Tazoui

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## EDUCATION

### University of Chicago:

BS Quantum Engineering

MS Engineering 4+1 Program

GPA: 3.40, Honors received: QUAD Undergrad Research Scholar, 4+1 Advanced Scholar

Chicago, IL

Expected May 2026

Expected May 2027

### Relevant Coursework:

Honors Physics I II & III, Intermediate E&M, Engineering Analysis I&II, Diff Eq, Abstract LinAlg, Solids

Materials and Surfaces (graduate), Quantum Mechanics, Quantum Eng I & II, Thermo, Transport Phenomena.

## EXPERIENCE

### Talpin Lab Group - Pritzker School of Molecular Engineering

Undergraduate Researcher (1500+ hours)

Chicago, IL

May 2023-present

- Researched and designed experimentation for new synthesis methods of Nanocrystals and Quantum Dots for use in novel research and applications.
- Developed sophisticated Self Assembly techniques of 10+ unique crystalline superlattices.
- Formulated complex mathematical models using Python to understand energy transfer through crystal systems. Ultimately developing better electronic systems.

### Prototype for Success

Fall 2022-Spring 2024

Engineering x Entrepreneurship Professional Cohort

- Led a team of 4 students to develop and pitch a physical prototype to a board of Booth School of Business Professors as part of the 2023 Prototype design challenge.
- Collaborated with startup Good Fibres: conducted thorough market research and industry interviews to develop strategic, optimized solutions to identified issues, and compiled findings in a 20 page comprehensive final report.

## PROJECTS

- Managing my own personal investment portfolio worth over \$30k, which has grown over 10% in the last 3 months by using retail trading strategies combined with successful, in-depth market screening.
- Developing a photodiode detector for a photothermal deflection detector in order to precisely measure photoluminescence quantum yield. Beginning with development of physical PCB and detector setup to coding the circuit board in python.
- Designed an algorithm in Python applying DLVO Theory to calculate simulated values of virial coefficients in nanoparticles. Data was compared to experimental data proving the hard-sphere hypothesis. This work is in a submitted Manuscript currently pending publication.

## LEADERSHIP

### Physics Tutor:

Spring 2024

- Tutored a highschool student enabling them to understand the course material and ultimately raise their grade from a D to an A.

### Impact Martial Arts

Little Rock, AR

Assistant TaeKwonDo Instructor

2018-2023

- Assisted Instructor during the lower rank classes including teaching patterns, correcting techniques, and leading drills and strength workouts.
- Led classes of between 10-20 students.

## SKILLS

**Computer:** Java, Python, CAD, MS Office, G Suite, Computer hardware

**Analytical:** Analyzing process flows, Research and Data Analysis, Risk Management, Portfolio management

**Language:** Conversant in Moroccan Arabic, Elementary Spanish