KUNLUN WU

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EDUCATION

Columbia University — New York, NY
MS in Materials Science and Engineering, 3.7/4.0 — Ongoing, expected graduation May 2026

Columbia University — New York, NY
BS in Materials Science and Engineering, 3.6/4.0 — May 2024
Dean's List

Colgate University — Hamilton, NY
BA in Physics and Japanese, 3.8/4.0 — May 2024
Dean's Award with Distinction

EXPERIENCE

Columbia University: School of Engineering — New York, NY
Chan Research Group, Undergraduate Researcher (PI: Siu-Wai Chan) — Aug 2023 - May 2024

- Impedance and Structural Analysis of Copper-Doped Nanoceria
  - Area: Materials Science, Ceramics, Nanoparticles
  - Led a team of 3 to co-precipitate 6 groups of copper-doped nanoceria (0-16% Cu content)
  - Investigated conductivity through impedance spectroscopy (EIS) measurements across 6 temperatures
  - Performed structural analysis using pair-distribution-function (PDF) data obtained from X-ray diffraction (XRD)
- Refractive Index Enhancement of Polymer Thin Films with Nanocrystalline Ceria
  - Area: Materials Science, Photonics, Thin Films
  - Collaborated with Professor Nanfang Yu's metaoptics lab
  - Produced 6 groups of SU8+thinner precursors with various concentrations of ~10 and 35 nm nanoparticles
  - Conducted dynamic light scattering (DLS) measurements
  - Analyzed 36 sets of ellipsometry measurements from spin-coated films on Si substrate

MetaOptics Lab Researcher (PI: Nanfang Yu) — Aug 2024 - Present

- Refractive Index Engineering of Polymer Thin Films via Metal-Ion Doping and Optical Modeling
  - Area: Materials Science, Photonics, Thin Films, Machine Learning
  - Investigated metal-ion doping (Ce, Cu, and Ti) to enhance the refractive index of SU-8 thin films.
  - Developed custom code for Lorentz/Cauchy optical modeling, analyzed 20 sets of samples (5-25wt% metal salts)
  - Developing a preliminary machine-learning framework to correlate compositional variables with optical constants
  - Ongoing

Oriental Fortune Capital: Shanghai Branch — Shanghai, CN
Assistant Investment Manager (Intern) — Jun 2023 - Aug 2023

- Conducted market research on Chinese desktop CPU industry from 2022 to 2023
- Developed investment analyses for 9 firms of interest, constructing an evaluation framework spanning across 5 key areas

HONORARY SOCIETIES

Materials Research Society (MRS) & Materials Advantage: CU Student Chapter — New York, NY
Vice President — Aug 2023 – Dec 2023
President — Jan 2024 - Present

SKILLS

- Language: Chinese (Native), Japanese (Proficient)
- Programming: Python (data analysis, optical modeling, scikit-learn, PyTorch)
- Experimental: Ellipsometry, EIS, XRD, DLS, SEM, AFM
- Extracurricular: PC building, Classical Guitar, Guqin, Taichi, Drawing, Seal Carving