Andrew Kim

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Education

COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART, NY, NY
Masters of Engineering and Bachelor of Engineering, **Chemical Engineering**, Projected May 2025
Cumulative GPA **4.0/4.0.**
Tau Beta Pi Fellow, IDC Foundation Innovation Fellow, Dean's List

Projects

- **Carbon Capture from Air Using Electrospun Polymer Fibers** — 2023-Present
  Optimized polymer fiber composition to maximize CO_2 absorption and stability. Publication of work in progress.
- **Modeling Surface Adsorption Phenomena for Sodium-Sulfur Batteries** — 2022-Present
  Simulated the behavior of sulfur intermediates on adsorptive material surfaces to improve the stability of sodium-sulfur batteries.
- **Designing Competitive Airplane Drones for International Flight Competition** — 2023-Present
  Leading the computational simulation, electronics management, and safety as the VP of Cooper Union's AIAA team to compete against over 100 teams worldwide.
- **Optimization of Sediment Microbial Fuel Cells Using 3D printing** — 2021-2022
  Designed a microbial fuel cell reactor to maximize voltage produced by bacteria in mud as a renewable energy source (work published in 2022).

Significant Publications

- **Journal of Materials Chemistry A**. Recent advances in modified commercial separators for lithium-sulfur batteries. — 2023
- **Polymer Reviews**. Recent Progress in PEG-based Composite Phase Change Materials. — 2023
- **Journal of Industrial and Engineering Chemistry**. Review on Thin-Film Nanocomposite Membranes with Various Quantum Dots for Water Treatments. — 2023
- **Bioresource Technology**. Modification strategies of membranes with enhanced Anti-biofouling properties for wastewater Treatment: A review. — 2022

Work Experience

Core Technology Intern, OLI Systems, USA — 2024
- Trained machine learning models like neural networks and evolutionary algorithms to predict corrosion for alloys for implementation in commercial software.
- Created extensive documentation and tests to communicate the implementation, capabilities, limitations, and next steps for final development by the team.

Research Assistant, Yonsei University, Korea — 2021-2023
- Applied effective project planning, time management, and adaptability to first-author 10 scientific articles while serving in the Korean Military during COVID19.

Leadership

- **President** — Chemists' Club, Cooper Union — 2019-Present
  Fostered networking and mentorship between students and professionals in the chemical industry.
- **President —** Tau Beta Pi, Cooper Union — 2024-Present
  Oldest US engineering honor society for top scholars of excellent character.

Skills

Software	Python, C++, OLI Studio, ANSYS Workbench, SolidWorks, Gaussian09, ORCA
Laboratory Equipment	Thermogravimetric Analyzer, Electrospinner, 3D Printer, HPLC, GC, Various Spectrometers, ^{1}H NMR, Tube Furnace
Skills	Machine Learning, Computational Chemistry, Computational Fluid Dynamics, Web Design, Patent Writing, Graphic Design for Scientific Figures