

JAKUB KOWALIK

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EDUCATION

Northwestern University

Evanston, Illinois, USA

Bachelor of Science in Chemical Engineering, Minor in Machine Learning

Expected June 2026

- **GPA:** 3.52 / 4.0; SAT: 1540

- **Relevant Coursework:** Thermodynamics, Optimization, Chemistry, Separations, Computer Science

PROFESSIONAL EXPERIENCE

Hersam Research Group

Evanston, Illinois

Undergraduate Researcher

November 2023 – Present

- Designed and carried out experiments to separate specific carbon nanotube enantiomers using density gradient ultracentrifugation.
- Fabricated transistor devices from the nanotubes previously obtained using reverse ion etching, chemical vapor deposition, and photolithography techniques in a clean room environment.
- Tested transistor devices using a vacuum probe station to test for sensitivity to circularly polarized light to determine the efficacy of chirally enriched carbon nanotubes for use in optoelectronics.
- Developed Python programs to scrape spectrometer data, aggregate it, and plot it for analysis.

Student Affairs IT, Northwestern University

Evanston, Illinois

Senior Technician

September 2022 – Present

- Monitored inventory of computers using Microsoft Active Directory, managing deployment and recall of computers to Student Affairs Staff.
- Collaborated with manager and fellow technicians, successfully resolving broken encryption on approximately 10% of new laptops within the Student Affairs Department.
- Developed and implemented bash scripts to upgrade data disposal systems and improve confidentiality of 100+ discontinued computers using more secure NVMe/SATA erasure methods.
- Delivered technical advice and support to a network of over 70 users, resolving customer-reported issues both in-person and remotely.

Northwestern Residential Services

Evanston, Illinois

Resident Assistant

May 2024 – Present

- Contributed to an on-call rotation providing every-day support to a building of over 200 students.
- Organized social events to foster and promote community-building among dormitory residents.
- Handled administrative duties such as lock-outs, room transfers, and maintenance reports.
- Managed disputes between residents, and discussed with students to resolve roommate conflicts and interpersonal issues.

LEADERSHIP EXPERIENCE

American Institute of Chemical Engineers (AIChE)

Evanston, Illinois

IT Chair

May 2024 – Present

- Developed and deployed a new organization website using the Astro web framework to promote the activities and goals of the organization more effectively.
- Managed a mailing list, facilitating announcements to all Chemical Engineering students.

ADDITIONAL

Skills: Python, AMPL, Linux CLI, Aspen HYSYS, Aspen Plus, Jupyter Notebooks, MATLAB, Microsoft Office Suite, Avogadro, Blender, ChemDraw, TeamDynamics, Visual Studio Code

Activities and Interests: Northwestern Engineering Design Fair “Best Design” Winner, Camp Kesem at Northwestern, Materials Science Club, Water Polo, Game Design, Electronic Music, Code Golf