Laszlo Edgar Dobra

Champaign, IL | +1 (217) 607-3670 | edobra2@illinois.edu | www.ledobra.com

EDUCATION

University of Illinois Urbana-Champaign Expected December 2026
Bachelor of Science in Chemical Engineering, Minor in Semiconductor Engineering **GPA: 3.97**

- **Honors:** Dean's List, IL Semiconductor Workforce Network Fellow, IL Engineering Achievement & Outstanding Scholar Award
- **Coursework:** Process Control, Thermodynamics, Momentum and Heat Transfer, Data Analysis

EXPERIENCE

Rust-Oleum June 2025 – August 2025
R&D Intern

- Spearheaded formulation of the company's first silicate-based waterborne paint, strategically penetrating the **$12+ billion global architectural mineral coatings market**.
- Engineered a **90% reduction in product viscosity** via advanced rheological analysis (rotational rheometer), enabling seamless scale-up to industrial production.
- Validated **20+ years of durability** by designing rigorous QUV weathering and ASTM testing protocols.
- Modeled critical ionic interactions within complex coating systems to resolve curing anomalies and boost long-term formulation stability.
- Directed supplier meetings to negotiate costs and presented breakthrough R&D results to **40+ senior executives and lead scientists**.

Guironnet Research Group October 2023 – Current
Research Assistant

- Designed liquid handler robotics for automated high-throughput synthesis, achieving simultaneous production of **100+ precision polymers**.
- Developed a GPC deconvolution algorithm and deployed it as a web app (Python, NumPy, Streamlit), **accelerating data analysis by 50x** and enabling real-time remote collaboration.
- Automated air- and moisture-sensitive polymerizations by engineering and operating complex glovebox, pressurized gas, and vacuum systems.
- Showcased research breakthroughs across 5 major conferences, securing a highly competitive award for automated synthesis against **30+ top researchers**.

School of Chemical Sciences Career Services August 2024 – March 2025
Student Ambassador

- Facilitated **500+ student-employer interactions** and spearheaded targeted social media growth, significantly elevating digital engagement and brand visibility among top-tier employers.

PROJECTS

MEMS and NEMS Fabrication January 2025 – May 2025
Course-Based Lab Project

- Engineered pressure sensors on nitride-coated wafers via a comprehensive cleanroom process (photolithography, PVD, wet/dry etching), validating **nanoscale tolerances** through profilometry and electrical probing.
- Architected and tested PDMS microfluidic mixers from scratch utilizing Fusion 360 and K-Layout, successfully demonstrating **optimized microscale fluid dynamics** and device functionality.

SKILLS

- **Technical:** Analytical Chemistry (HPLC, GC, GPC, NMR, UV-Vis & IR), Rheology, ASTM Testing
- **Device Fabrication:** UV Lithography, CVD, PVD, Wet/Dry Etching, Cleanroom Protocols
- **Programming:** Python (Matplotlib, NumPy), MATLAB, C, JavaScript, HTML
- **Software:** SAP, Microsoft Office, ChemDraw, CAD (Fusion 360, Siemens NX), Adobe Products
- **Languages:** English (Fluent), Hungarian (Fluent), Romanian (Fluent), German (Intermediate)