

Helen Engelhardt

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☎ XXX-XXX-XXXX

in helenengelhardt

🌐 helene.tech

TECHNICAL SKILLS

- **Laboratory:** battery manufacturing, electrochemistry, x ray diffraction, electron microscopy, nanoparticle synthesis.
- **Mechanical design and visualisation:** Solidworks, Comsol, Blender, Adobe Creative Cloud.
- **Data analysis and programming:** Python, Java, MATLAB, C, HTML/CSS, Gnuplot, Origin, Microsoft Office.
- **Communication:** writing and creating figures for research presentations and papers.

EXPERIENCE

Research Assistant, Battery Electrode Materials, [National Research Council](#)

📅 Jan 2021 – Apr 2021

📍 Edmonton, Canada

- Fabricated and tested improved anode materials for lithium-ion batteries.
- Modeled nucleation and diffusion in electrochemical cells using Comsol and MATLAB.
- Created and presented scientific communications and manuscripts based on my research.

Research Assistant, [Klinkova Lab, University of Waterloo](#)

📅 Sep 2019 – present

📍 Waterloo, Canada

- Maximized electrochemical reactor efficiency using Comsol fluid simulation.
- Collected data for and analyzed over 200 data sets from electrochemical systems using Excel and Origin.
- Collaborated with graduate students to create scientific papers.

Class Representative and VP Finance, [Waterloo Engineering Society](#)

📅 Sep 2019 – present

📍 Waterloo, Canada

- Manage budget, sponsoring student teams, and Engineering swag store.
- Convey class concerns to professors and student council professionally.

Mathematical Modeling, [Waterloo iGEM](#)

📅 Jan 2020 – Nov 2020

📍 Waterloo, Canada

- Designed filtration column to remove heavy metals from electronics waste.
- Worked with team to produce Python-based model of system.

EDUCATION

Candidate for BAsC, Nanotechnology Engineering, [University of Waterloo](#)

📅 Sep 2019 – present

AWARDS

SOUSCC48 Outstanding Poster Presentation, [Ryerson University](#)

📅 Jul 2020

Undergraduate Student Research Award, [NSERC](#)

📅 Apr 2020

INTERESTS

- Music: 14 years of classical violin studies, songwriter, avid guitar player
- Whitewater kayaking instructor, outdoors enthusiast
- Crafting, knitting, and sewing

PUBLICATIONS

H. Engelhardt, X. Medvedeva, and A. Klinkova. Poster: "Self Assembly of Gold Core Cage Nanoparticles." SOUSCC48. 2020.

F. Li et al. "Interplay of Electrochemical and Electrical Forces Exerted on Nanoscale Electrocatalysts Influences their Structural Integrity During Electrocatalysis." Manuscript under review, *Nature Catalysis* (co-author).

J. Medvedev, X. Medvedeva, H. Engelhardt, and A. Klinkova. "Relative activity of metal cathodes towards electroorganic coupling of CO₂ with benzylic halides." Manuscript under review, *Electrochimica Acta* (co-author).