

# KAIDEN BOISJOLIE

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Student at the University of Massachusetts

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## PERSONAL STATEMENT:

A driven, altruistic, innovative, and extremely ambitious honors undergraduate student at the University of Massachusetts Amherst looking to make a difference through materials science and engineering. Has hands on experience with analytical laboratory techniques, planning/executing both empirical and computational chemical research, and working collaboratively with teams in and out of the lab. Has proven skills such as a fast and adaptable learner, laboratory procedures, coding proficiency, communication, and personability.

## EDUCATION:

### **Bachelor's in Science, Chemistry**

Current GPA: 3.94

University of Massachusetts Amherst

Fall 2025 – Present

Anticipated graduation date: 2027

### **Associate in Science, Chemistry**

GPA: 3.97

Greenfield Community College

Dual enrolled: Fall 2021 – Fall 2024

Fully enrolled from Fall 2024 – Spring 2025

Graduated 2025

## PROFESSIONAL APPOINTMENTS:

### **Undergraduate Researcher (Walsh Lab)**

University of Massachusetts Amherst • Fall 2025 – Present

- Participate in advanced research in high pressure synthesis and characterization of materials
- Execute computational experiments using either high-throughput first principles, or data driven measures to predict thermodynamic stability of novel materials *in silico*
- Skills: Project management, teamwork, research, lab skills

### **UMass ACS Club Executive Board Member**

University of Massachusetts Amherst • Winter 2025 – Present

- Collaborate with other members for event planning, club logistics, funding requests
- Voice opinions and ideas regarding club direction and operations
- Skills: Communication, leadership, professionalism, orchestration, helpfulness

**Mathematics and Science Peer Tutor**

Greenfield Community College · Fall 2023 – Spring 2025

- Academically assist students with class subject matter potentially containing concepts related to biology, a range of mathematics up to single variable calculus, general and organic chemistry.
- Completed 60+ hours of active tutoring sessions total.
- Achieved a Level 1 CRLA Tutoring Certification.
- Skills: Academic excellence, collaboration, instruction, leadership, communication.

**Orientation Leader**

Greenfield Community College · Fall 2024 – Spring 2025

- Welcome prospective students, and provide them with assistance, answering questions from the perspective of a student, and to give them a warm welcome to the campus
- Skills: Personability, emotional intelligence, teamwork, helpfulness

**RESEARCH:**

<b>Computational Search for Reactivity in The Indium–Carbon System</b>	University of Massachusetts Amherst · Walsh Lab · November 2025 – present
<ul style="list-style-type: none"> <li>• Computational search for novel phases in the inert indium–carbon system using high pressure.</li> <li>• Geometrically optimized random structures using DFT with CASTEP to orchestrate a first-principles AIRSS stratagem.</li> <li>• Trained EDDPs as machine-learned interatomic potentials to accelerate relaxations</li> <li>• Soft Skills: Project planning, time management, computational chemistry on HPC cluster</li> <li>• Technical Skills: Neural networks, machine learning, computational chemistry using AIRSS, EDDPs, and CASTEP</li> </ul>	
<b>Algae vs. Troublesome Pharmaceuticals</b>	Greenfield Community College · Spring 2025
<ul style="list-style-type: none"> <li>• An exploration of the possibility of utilizing <i>Chlorella vulgaris</i> algae to bioremediate wastewater polluted with pharmaceuticals</li> <li>• Was able to entirely plan, orchestrate, and execute the project with only guiding support.</li> <li>• Soft Skills: Project planning, time management, execution, leadership</li> <li>• Technical Skills: spectrophotometry, biological growth, laboratory safety, quantitative analysis.</li> <li>• Link: <a href="https://www.kaidenboisjolie.me/docfiles/Algae%20vs%20troublesome%20pharmaceuticals.pdf">https://www.kaidenboisjolie.me/docfiles/Algae%20vs%20troublesome%20pharmaceuticals.pdf</a></li> </ul>	
<b>From Pond Scum to Moonshine</b>	Greenfield Community College · Spring 2024
<ul style="list-style-type: none"> <li>• An attempt at growing and harvesting <i>Chlorella vulgaris</i> algae, and to chemically/biologically synthesize bioethanol from the biomass.</li> <li>• Was able to entirely plan, orchestrate, and execute the project with only guiding support.</li> <li>• Soft Skills: project planning, time management, execution, leadership,</li> <li>• Technical Skills: saccrification, distillation, biological growth, laboratory safety.</li> <li>• Link: <a href="https://www.kaidenboisjolie.me/docfiles/From%20Pond%20Scum%20to%20Moonshine.pdf">https://www.kaidenboisjolie.me/docfiles/From%20Pond%20Scum%20to%20Moonshine.pdf</a></li> </ul>	

**SKILLS:**

Coding proficiency in:	Python, Bash, Javascript
Platforms:	Windows and Linux, HPC cluster (slurm), shell scripting
Applications:	MS office, LibreOffice, Visual Studio Code
Soft Skills:	Time management, leadership, collaboration, fast learner, adaptability, personable, project planning, positive and supportive attitude.
Laboratory Skills:	spectrophotometry, IR spectroscopy, UV spectroscopy, gas chromatography, distillation, organic melting point determination, organic reactions, laboratory safety, quantitative analysis.  Novice experience with single crystal and powder X-Ray Diffraction
Familiarity in the following Computational Chemistry tools:	AIRSS, CASTEP, EDDP training and utilization

**HONORS AND AWARDS:**

- 3<sup>rd</sup> place in the Harry Allen jr. Symposium Undergraduate Poster Competition for excellence in executing and presenting research in the indium–carbon system using cutting-edge computational methods. (March 28, 2026)
- Won the J. F. B. Fund for Undergraduate Summer Research (Spring 2026)
- Awarded as a Lee-SIP scholar (summer 2026)
- University of Massachusetts Dean's list (Fall 2025)
- Greenfield Community College President's list (Spring 2025)
- Greenfield Community College Dean's list (Fall 2024)
- Dual enrollment honors recognition (2023 – 2024)

**ASSOCIATIONS:**

- A current member of the Commonwealth Honors College (Fall 2025 – Present)
- Phi Theta Kappa Honors (Fall 2023 – Spring 2025)