

Katarina Luker

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EDUCATION

University at Buffalo, SUNY, Buffalo, NY May 2026
BS, Aerospace Engineering and Mechanical Engineering GPA: 4.0/4.0

- Awards: UB SEAS Women's Empowerment Award, Barbara and Jack Davis Engineering Education Endowment, Honors College, Undergraduate Dean's List Fall 2022 and Spring 2023

Genesee Community College, Batavia, NY May 2022
AS, Liberal Arts & Science: Natural Science GPA: 4.0/4.0

Alexander Middle High School, Alexander, NY June 2022
High School Advanced Regents Diploma with Math, Science, and History Honors GPA: 103/100

- Awards: Valedictorian, National Merit Scholarship Letter of Commendation, Rural and Small-Town Recognition Award, Rensselaer Medal Award, Alfred University Scholar Award, Scholar Athlete, various Awards of Distinction

RELEVANT WORK EXPERIENCE

Graham Corporation, Batavia, NY December 2022 – August 2023
Research and Development Engineering Intern

- Calibrated 24 gauges to +/- 0.5% accuracy in vacuum and positively pressurized systems.
- Tested various nozzles in vacuum pump ejectors to enhance performance and apply in the field for reduced carbon emissions and steam energy savings upwards of \$100,000 annually.
- Collected data on nozzle flow rates through an orifice
- Calculated nozzle coefficients ranging from .94 to .98 using Excel equations.

PROJECTS

- Developed a working electric boat through series of 12 experiments, from initial design of spinning in circles to successfully travelling down the track in 26.2 seconds.
- Research in Linux based high performance computing and computational fluid dynamics at UB.
- Created a working model to depict the conditions of a Four-Stroke engine throughout its cycle using MATLAB.
- Studied how to use features within SolidWorks to create models, standard engineering drawings, and moving assemblies.

LEADERSHIP & ACTIVITIES

UB SEDS 2022- Present

- Designed a rocket with dynamics team to be flown in Spaceport America Competition.
- Learned to design on Fusion 360 and simulate flight conditions with ANSYS and other software.

WiSE: Volunteer and Mentor (2023) 2022- Present

- Improved professional skills, connected with other women in STEM fields, and learned about future opportunities.
- Volunteered with welcome events for freshmen to ease college transition and serve as a mentor through new experiences.

UB Women's Club Soccer 2022- Present

Math Team 2018-2022

- Contended at the County and State level. Awards: Top Sophomore, Junior, Senior, and Overall Scorer (twice)

National Honor Society: Treasurer (2021) and President (2022) 2019-2022

- Organized Earth Day stations for 60 Kindergarteners. Decorated and bonded with residents at nursing homes. Collected thousands of donations for refugees coming to Western New York. Maintained Outdoor classroom.

Varsity Track & Field: Captain (2022) 2019-2022

- Contended and placed in sectionals for every season, from 8th place 2019 to 4th place 2022 in 400m hurdles and pentathlon.
- Awards: Track & Field Genesee Region All-Star Honorable Mention (twice)

ADDITIONAL WORK EXPERIENCE

University at Buffalo, Buffalo, NY August 2023 – Present
Engineering Seminar Student Leader

- Encouraged collaboration in lectures to help groups of freshmen engineers complete in-class activities.
- Led lab groups of about 25 students to complete assignments and 4 energy related projects using the engineering process.

Math Place Tutor August 2023 – Present

- Tutored students enrolled in undergraduate math courses, including Algebra and Calculus.

Honors College Peer Mentor August 2023 – Present

- Mentored 3 individual honors freshmen students 1:1 to help them get acclimated to campus and navigate their courses.

Six Flags Darien Lake, Darien, NY June 2021 - August 2023
Ellis and Associates trained Special Facilities International Lifeguard

- Responded quickly and effectively to emergency situations, including water rescues, and administered aid as necessary.
- Received Guard of the Week and achieved Exceeds on all Darien Lake and E&A audits.
- Developed lessons and taught 70 children ages 4-13 how to swim and improve skills in water.

SKILLS

Coding: MATLAB, Octave | 3D CAD: Fusion 360, SolidWorks