Kyla Fallis

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EDUCATION

The Ohio State University, Columbus, OH — Expected Graduation Date: May 2028
Bachelor of Science in Environmental Engineering — GPA: 3.78
Minor in Science and Engineering in the Public Interest
Pre-law track
Humanitarian Engineering Scholars Program

QUALIFICATIONS

- **Programming Languages**: MATLAB, C++, JavaScript, HTML
- **Technologies**: Git, GitHub, Firebase, VS Code, Google API, OnShape, Fusion360, Solidworks, Excel, Access
- **Relevant Coursework**: Public Speaking, Project Leadership, Scientific Research.

PROJECT EXPERIENCE

Pythagorus Plains Game — November 2024 – December 2024
Matlab Educational RPG - 1181
- Collaborated with a team to create an RPG in MATLAB where players solved math problems to defeat enemies.
- Programmed adaptive difficulty levels and interactive storylines to sustain engagement.
- Contributed to debugging and testing to ensure a game that merged education with entertainment.

Aquatracker Design Project — October 2024
Autonomous Water Monitoring Device - 1182
- Worked with teammates to engineer a device that measured salinity, pH, and temperature in real time.
- Integrated sensors with a microcontroller and developed code for automated data collection.
- Assisted in designing and presenting the prototype as a low-cost solution for environmental monitoring.

LYKA Lamp Project — May 2024
Compost-Powered Microbial Fuel Cell Lighting System
- Engineered a renewable energy lamp powered by microbial fuel cells using compost as the electron source.
- Designed the circuit with capacitors, voltage boost converters, and rechargeable batteries to store and regulate power output.
- Conducted experiments to optimize energy efficiency and improve light duration for practical applications.
- Presented the prototype as a sustainable, low-cost energy solution for off-grid communities.

4-H AI Challenge Project – WasteWise AI — April 2024
Image-Based Waste Sorting System
- Designed an AI-powered system that scans and sorts items into organic waste, recyclables, or landfill trash to reduce contamination and methane emissions.
- Applied machine learning and computer vision techniques to develop an accessible, real-time waste identification tool.
- Focused on solving local waste management challenges by providing immediate user feedback for proper disposal.
- Won 1st place in Ohio, qualified for National competition.

WORK EXPERIENCE

Lima YMCA, RPAC, Johnny Appleseed Metro Park Dublin, OH
Lifeguard May 2023 – Present

- Supervised swimmers and enforced safety rules to prevent accidents and maintain a secure environment.
- Responded to emergencies with first aid and rescue procedures when necessary.
- Assisted with swim lessons and promoted water safety awareness among youth participants.

Lima Community Church Lima, OH
Children's Ministry Volunteer 2022 – Present

- Led on-stage worship sessions to engage children in faith-based learning.
- Facilitated small group discussions to guide reflection and build community.
- Served as a summer camp counselor, supervising activities and fostering a supportive environment for youth.

Research/Publication Experience

Electrogenic Biotransformation of Organic Substrates | Publication OH
Research November 2023 – April 2025

- Conducted independent research on compost-powered microbial fuel cells to explore low-cost renewable energy.
- Designed and built prototypes, ran controlled experiments, and analyzed electrochemical performance data.
- Published findings in a peer-reviewed article, demonstrating originality and technical rigor in sustainable energy research.
- International Science and Engineering Fair (ISEF), EPA Award, OAS President's award, COSI Big science day panelist, IFoRE Finalist, and multiple first-place regional science fair honors.

INVOLVEMENT

Model UN

- Represented assigned countries in international policy debates and collaborated to draft and negotiate resolutions.

Time for Change

- Organized campus-wide initiatives promoting sustainability, environmental awareness, and student engagement.

Sustainability Issues Team, Undergraduate Student Government

- Advanced student-driven policy recommendations to integrate sustainability into university operations.

OSU Collegiate Council on World Affairs (CCWA)

- Engaged in discussions on global issues and supported programming related to international relations.

OSU United Nations Association (UNA)

- Advocated for UN initiatives and participated in events promoting diplomacy and human rights.

OSU Students for Sustainable Fashion

- Promoted ethical fashion by raising awareness about environmental and social impacts of the fashion industry.

Independent Research – Earth's Magnetic Field Energy Generation

- Investigated the potential of Earth's magnetic field as a renewable energy source through independent study.