Madeleine Henderson

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EDUCATION

University of Exeter | *Exeter, Devon, UK*   SEP 2022 – SEP 2023

US-UK Fulbright Grantee, MSc Global Sustainability Solutions

Focus in: GIS, Systems Thinking, Circular Economy, Policy Analysis

Purdue University | *West Lafayette, Indiana, USA*   AUG 2016 - MAY 2020

BS Biomedical Engineering, 3.9/4.0 GPA, minor in Electrical Engineering

Honors: Rhodes Scholar Finalist; Purdue Presidential Scholar; *Tau Beta Pi* and *Phi Beta Kappa* honor societies

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EXPERIENCE

Global Systems Institute, University of Exeter – *MSc Thesis | Exeter, Devon, UK*   APR 2023 – SEP 2023

- Analyze ecosystem resilience with remote sensing data in Kenya using Google Earth Engine, Python, and QGIS
- Determine whether community-led agroforestry carbon credit programs improve recovery from drought

ReRooted Organic – *Sustainability Consultant Intern | Totnes, Devon, UK*   APR 2023

- Assess product carbon footprint (cradle to gate) of six plant milks using GHG Protocol Standard
- Compare collected data against industry benchmarks and provide recommendations for reduced emissions
- Request and synthesize information from suppliers, distributors, and circular packaging providers
- Create updateable Excel KPI dashboard to communicate emissions metrics for use in externally facing reporting

Medtronic – *Environmental Action Group Co-Founder | Mounds View, MN*   NOV 2021 – JUN 2022

- Co-founded employee group to educate and empower employees to integrate sustainability into their work
- Led group including managing leadership team, determining strategy, and interfacing with executive sponsors
- Over 1000 employees joined globally and group was integrated into official corporate climate strategy

Medtronic - *Hardware Engineer II | Mounds View, MN*   JUL 2020 – JUN 2022

- Led team of hardware, firmware, and software engineers to design remaining longevity algorithm for pacemaker
- Mine database of patient data with SQL to fit longevity estimation model in Python to real use conditions
- Use Excel pivot tables and Spotfire data visualization to analyze hardware power usage for model
- Document models and results for regulatory approval; communicate results to cross-functional teams
- Awarded Mission First Quality and nominated Technical Contributor of the Year team for verification framework

Purdue Student Sustainability Council - *Vice President |West Lafayette, IN*   FEB 2018 – MAY 2020

- Led creation and implementation of food waste diversion pilot program with 4 communal housing buildings
- Collaborated with university and municipal operations; food waste program expanded to 13 paying houses
- Coordinated sustainability initiatives with other student groups such as a waste awareness campaign
- Expanded access to new municipal composting drop-off in collaboration with city sustainability commission

Redesigning Food Waste at Purdue - *Honors Scholarly Project | West Lafayette, IN*   OCT 2018 – MAR 2019

- Inventoried food waste streams to improve food waste diversion system and reduce greenhouse gas emissions
- Collected quantitative and qualitative data, analyzed data, and provided programmatic design recommendations

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INTERESTS AND COMMUNITY ENGAGEMENT

Minneapolis Community Environmental Advisory Commission • Exeter Expedition Society • Therapeutic horse-riding volunteer • Society of Women Engineers volunteer • Purdue Equestrian Team •

SKILLS

Computer skills: *Microsoft Office, GIS, OpenLCA, SQL, Python, Google Earth Engine, MATLAB, Minitab, Machine Learning*
Functional skills: *Systems thinking, Project management, Technical communication, Six Sigma Green Belt*