ESTHER PUTMAN

AEROSPACE ENGINEER

OBJECTIVE

With my multifaceted background spanning life sciences and engineering, I am working to build the future of crewed space exploration by created systems for human spaceflight.

+1 859 940 5048 | esther.putman@colorado.edu | linkedin.com/in/estherputman/

EDUCATION

PH.D. BIOASTRONAUTICS
Expected May 2024
M.S. AEROSPACE ENGINEERING
M.E. ENGINEERING MANAGEMENT
University of Colorado Boulder
3.94 GPA | 2019 – 2021

B.S. NEUROSCIENCE
B.S. BIOLOGY
University of Kentucky
Magna Cum Laude | 2019

SKILLS

// PROFESSIONAL
Engineering Project Management
Human Factors Engineering
Human Subject Research
Technical Writing

// MANUFACTURING
Additive Manufacturing: FDM, SLA
Soldering
Drill press
Mill + Lathe

// SOFTWARE + LANGUAGES

MATLAB	Python
LaTeX	Git
C#	R
Unity	Unreal

CAD- Creo, Solidworks

AWARDS

NSF GRFP 2020
BROOKE OWENS FELLOW 2018
ASTRONAUT SCHOLAR 2018
WOMEN IN AEROSPACE SCHOLAR 2018
AIAA DIVERSITY SCHOLAR 2018
SINGLETARY SCHOLAR 2015

EXPERIENCE

GRADUATE RESEARCH ASSISTANT
University of Colorado Boulder | 2019 – Present

- Created spaceflight mission-relevant training scenarios in VR using Unity to improve skill retention for long duration exploration missions.
- Assessed neurophysiology during VR training using EEG and fNIRs.
- Developed novel training algorithm in Python for adaptive difficulty adjustment increasing user engagement and training impact.
- Responsible for IRB approval, human subjects testing, technical writing, and communicating project status with NASA stakeholders.

BIOLOGICAL SYSTEMS ENGINEERING INTERN
Space Tango, Lexington, KY | 2016 – 2019

- Collaborated on the development, turnover, and integration of over 50 payloads for life and physical sciences research on the International Space Station.
- Responsible for requirements creation and validation for hardware that interfaced with biological materials.
- Customer-facing role developing experiment plans and shaping proposals to facilitate NASA requirement compliance and hardware integration.
- Translated student payload proposals into actionable research plans.
- Communicated experimental design practices and scientific value of payloads to internal and external stakeholders through written and verbal mediums.

SPACE SYSTEMS INTERN – BROOKE OWENS FELLOW
Vulcan, Seattle, WA | May-August 2018

- Utilized satellite Earth observations to assist development of modeling and prediction algorithms addressing large-scale global issues like illegal blast fishing, elephant poaching, and coral reef conservation.
- Connected AI teams with training data sets from open-source satellite imagery identified and cataloged by my research of primary symptoms.
- Explored the experience of women in STEM to inform gender-inclusive hiring practices.

NASA SPACE LIFE SCIENCES TRAINING PROGRAM RESEARCHER
NASA Ames Research Center, Moffett Field, CA | June-August 2017

- Analyzed biomarkers of cellular senescence in bone marrow stem cells to explore mechanisms of astronaut bone density loss.
- Responsible for animal handling and dissection as well as data collection using cell culturing, flow cytometry, histology, and micro-CT.

RESEARCH ASSISTANT
Sander's Brown Center on Aging, Lexington, KY | 2014-2017

- Researched traumatic brain injury, Alzheimer's, and vascular dementia through confocal microscopy and immunohistochemistry.
- Selected as 2015 IES Brain Research Foundation Fellow.