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.

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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	R
LaTeX	Git
C#	Python
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

Research focused on aerospace medicine, space physiology, astronaut training, extravehicular activity, long-duration spaceflight, human factors and performance.

- Unity environment development of mission-relevant VR training in EDL, EVA, and habitat maintenance tasks.
- .Neurophysiological assessment of training in VR using fNIRS and EEG.
- Created novel training algorithms for adaptive difficulty adjustment.
- Teaching Fellow for Linear Control Systems Engineering, Intro to Humans in Aviation, and Human Factors Engineering.

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

Payload development, verification, turnover and integration for life and physical sciences research on the International Space Station. Assisted with the development of over 50 research payloads.

- Requirements creation, verification, and validation for hardware that interfaced with biological material.
- Assisted STEM education groups with turning payload proposals into actionable research plans for investigation on ISS.
- Science communication, technical and grant writing for internal and external stakeholders for conveying scientific value of payloads.

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

Utilized satellite Earth observations to develop monitoring, modeling, and prediction technologies aimed towards addressing large-scale global issues like illegal blast fishing, elephant poaching, and coral reef conservation.

- Researched primary symptoms of complex issues to connect data sets for creating detection algorithms.
- Identified and cataloged open-access data sets for training machine learning algorithms.

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 by which spaceflight stressors cause astronaut bone density loss.

- Skills included animal handling and dissection, cell culturing, flow cytometry cell cycle analysis, histology, and micro-CT.
- Selected to present research in both a lightning talk and poster session at the 2017 American Society for Gravitational and Space Research conference.