

Skills are organized by category to highlight diverse technical skills.

Keara Burke

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EDUCATION

Bachelor of Science in Mathematics with emphasis in Statistics and Probability May 2019
Bachelor of Science in Systems Engineering, GPA: 3.8
University of Arizona, Honors College, College of Engineering, Tucson, Arizona
Astronaut Foundation Scholarship, *Nominee* & Goldwater Scholarship, *Nominee* March 2018
Phi Beta Kappa, *Member*, Tucson, Arizona March 2018 – Present
Omicron Delta Kappa, *Member*, Tucson, Arizona November 2016 – Present
Tau Beta Pi, *Member*, Tucson, Arizona September 2016 – Present
Honors Study Abroad in Europe June & July 2016

CORE TECHNOLOGIES & SKILLS

Languages: Bash Scripting, C, PSQL

Software: MATLAB, ISIS 3, ArcGIS, QGIS, SPICE, LINGO, Simulink, Enterprise Architect, Adobe Creative Cloud

Tools & Skills: Data Analysis, Modeling, Database Management, Laser Cutter, CNC Mill, Lathes, Milling Machines

PROFESSIONAL EXPERIENCE

OSIRIS-REx Mission, Tucson, Arizona
Image Processing Intern January 2017 – Present

- Develop MATLAB process to calculate particle size frequency distributions of hazards on simulated asteroid surface to test viability of hazard identification methods on asteroid (101955) Benu.
- Establish spatial database of hazard information for ease of data processing and team access.
- Ensure stakeholder needs for data processing are met through collaboration with team on calculation results.
- Generate and analyze mosaics of simulated image data using bash scripting and ISIS3 to determine suitability for use in testing IPWG processing pipelines.
- Design a pipeline using ISIS3 to automatically process and ingest images for database upload.
- Presented initial work in 2017 during poster session at biannual OSIRIS-REx Science Team Meeting 12.

Biosphere 2, Tucson, Arizona
Honors Research Intern January 2016 – April 2016

- Researched the combined effects of CO₂ levels, temperature, and plant type on basalt rock weathering to understand the impact of rising global temperatures.
- Presented findings during poster session at Honors Engagement Expo to groups of 100+ faculty and students.

AFFILIATIONS & LEADERSHIP

The University of Arizona Engineering Student Council, Tucson, Arizona
Vice President April 2018 – Present

- Direct council meetings, encourage member involvement, and support initiatives to represent engineering clubs and students to the college and community.

Director of Corporate Relations March 2017 – March 2018

- Organized Arizona's largest student-run engineering career fair attended by 50 companies and 800 students.
- Hosted professional development workshops for ESC council members to advance professional growth.

Member September 2016 – Present

- Collaborate with peers to implement professional development plans and motivate engagement in engineering.

The University of Arizona Engineering Ambassadors, Tucson, Arizona
Member April 2017 – Present

- Assist in outreach events for the College of Engineering. Provide tours and speak at information sessions to support recruiting of potential engineering students.
- Educate K-12 students on the importance of STEM to grow awareness and interest in pursuing careers in STEM.

Technical skills are incorporated into experience.