

Jason Bak

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EDUCATION

Cornell University–College of Engineering

B.S. Mechanical Engineering, Minor in Business

Cornell Traditions Fellow

Relevant Coursework: Fluid Mechanics, System Dynamics, Mechanics of Engineering Materials, Thermodynamics

Skills: SolidWorks, AutoCAD, MATLAB, Python, WaterGEMS, ETL, Excel, Data Analysis, Technical Writing

Ithaca, NY

Expected May 2027

ENGINEERING EXPERIENCE

U.S. Public Health Service

Mechanical Engineering Intern

Parker, AZ

May 2025 - August 2025

- Drafted Preliminary Engineering Documents and helped design models (AutoCAD, WaterGEMS) in partnership with Indigenous American tribes to secure funding and deliver resilient infrastructure improvements on tribal lands.
- Conducted field diagnostics, failed-septic assessments, pressure logging, manhole inspections, and assisted with construction observation to ensure contractor and N.E.P.A. compliance.

Cornell University - S.C. Johnson College of Business

Ithaca, NY

Research Assistant, Teacher's Assistant

January 2025 - May 2025

- Collaborated with Professor Robert Karpman to input and present simulation data via GitHub, ensuring accurate and accessible formatting for instructional use.
- Supported students in AEM 4461 by managing access to the simulation, answering technical questions, and providing hands-on guidance throughout the course.

Wolfram|Alpha

Remote

Computational Researcher

February 2024 – February 2025

- Conducted research in computational mathematics using Python and ETL tools to develop models for understanding its properties through volumetric analysis, contributing to advancements in data modeling.

PROJECTS

Havasupai Water Tower Rehabilitation

Supai, Arizona

U.S. Public Health Service

Summer 2025

- Communicated with engineers and tribal authorities to assess structural and hydraulic integrity of a 100,000-gallon elevated water tower serving the Havasupai Indian Reservation.
- Modeled pressure distribution and flow rates to evaluate pump head losses for consistent community water access.
- Developed rehabilitation design recommendations, including location, pipe replacement, and repairs to secure federal funding.

Septic System Construction for Five Sites

Fort Mojave, Arizona

U.S. Public Health Service

Summer 2025

- Conducted test pit analysis and site evaluations to determine soil permeability and inform septic tank sizing.
- Assisted in system design, drafting as-builts, and producing engineering documentation in compliance with NEPA and EPA wastewater standards.
- Supported construction observation and contractor coordination to ensure installation accuracy and system performance across five sites.

LEADERSHIP EXPERIENCE

Cornell University

Ithaca, NY

Ganędago Hall Council President

August 2024 – Present

- Successfully organized and executed residence hall events, enhancing community engagement by ~20% and fostering a positive living environment.
- Coordinated effectively with housing staff, Residential Advisors, and representatives from Cornell University Residence Life and Community Standards to ensure seamless event planning and address resident needs.