

DOMINICK C. BRAICO

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EDUCATION

University of Illinois at Urbana-Champaign

Bachelor of Science in Mechanical Engineering

Minor in Computer Science

Expected Graduation: May 2026

GPA: 3.88/4.00

TECHNICAL SKILLS

CAD: Autodesk Fusion 360, SolidWorks, GD&T, DFM

Programming/Electronics: Python, ROS 2, Gazebo, Raspberry Pi

Tools: CNC Machining, 3D Printing, Soldering, Basic Shop Tools

Spoken Languages: English and German (Conversational)

EXTRACURRICULAR ACTIVITIES

Illinois Robotics in Space (IRIS) | Excavation Project Lead

August 2023 – Present

- Leading the development and operation of a lunar mining robot as an integral part of a multidisciplinary team for NASA's annual Lunabotics competition.
- Collaborating closely with team members to choose suitable materials, creating custom components using SolidWorks, and optimizing the chassis for weight reduction while ensuring durability.
- Overseeing the design and production of the excavation system for the mining robot.
- Documenting design decisions and researching innovative ideas to guide the future development of the robot.

Tau Beta Pi Engineering Honors Society | Social Committee

January 2023 – Present

- Organize, plan, and lead social events for initiates and returning members.
- Developed a team goal for the year through collaboration with executive board.

WORK EXPERIENCE

Innovative Data Consulting Inc. | Intern

May 2023 – August 2023

- Engineered a dynamic real-time dashboard within Power BI to optimize resource allocation for network engineers.
- Developed Python & Power Query Formula Language scripts to optimize data extraction and visualization, seamlessly integrated with Syncromsp API.
- Engaged in effective communication with network engineers to validate and fine-tune data models.

PROJECTS

Industrial Robotic Arm

November 2023 - Present

- Led the prototype design phase using SolidWorks, showcasing proficiency in detailed 3D modeling and design of critical robotic arm components.
- Successfully integrated the Gazebo simulation environment into the project, leveraging this tool to conduct exhaustive simulations. These simulations were instrumental in assessing and validating trajectory planning, kinematics, and dynamic control aspects, leading to enhanced overall performance.

Mechanical Design Project

August 2022 – December 2022

- Developed a retractable skateboard lock prototype in Autodesk Fusion 360 and developed detailed, ASME Y14 standard engineering drawings for all 21 custom components.
- Utilized aPriori cost analysis software to identify major expenses within our team's design, and subsequently addressed the issues through a redesign process reducing manufacturing cost by 14% including resourcing and redesigning of crucial mechanical components.