Barkot Simegn - Mechanical Engineering Student

barkotsimegn@gmail.com • 720-903-6855 • https://sites.google.com/view/barkotsimegnprojects

EDUCATION

Northwestern University | Evanston, IL   **June 2027**
B.S. in Mechanical Engineering GPA 3.3/4.0
Community College of Aurora | Aurora, CO   **May 2023**
A.S. in Physics GPA: 3.8/4.0
Overland High School | Aurora, CO GPA: 4.0/4.0   **May 2023**
Relevant Courses: Material Science, Mechanics of Materials, Thermodynamics, Differential Equations, Fluid Dynamics, Statics, Dynamics, Multivariable Calculus, Scientific and Embedded Programming in Python, Electronics Design, Linear Algebra

SKILLS

Technical Skills: Python, Circuit Python, Matlab, Breadboarding, Microcontrolers, CAD, Certified Solidworks Professional, Certified Solidworks Associate, Microsoft Suite, Soldering, Excel,
Interpersonal Skills: CPR, Spanish, Leadership, Teamwork, Hardworking, Integrity, Time-Management

PROJECTS

Circuit Python Clock   **Sep-Dec 2024**
- Developed a custom LED display powered by a Raspberry Pi Pico to showcase real-time clock functionality using Circuit Python.
- Programmed and optimized the system for accuracy and efficiency, creating a cost-effective and easily replicable clock design.
- Designed multiple housing models in Solidworks, balancing structural integrity, usability, and cost-effectiveness.

Modified Bike Stand|Shirley Ryan Ability Lab   **March - June 2024**
- Collaborated with a multidisciplinary team to create a bike stand for a student with cerebral palsy, enabling independent use and increased accessibility.
- Conducted ergonomic research, user interviews, and data collection to inform design decisions that met specific accessibility needs.
- Utilized Solidworks for computer-aided design and 3D printing technology to create and test functional prototypes.

Northwestern NSBE Finance Chair|McCormick School of Engineering   **Jan-April 2024**
- Managed the finances of the Northwestern University chapter of the National Society of Black Engineers (NSBE), overseeing fundraising initiatives and chapter events.
- Led coordination efforts for chapter meetings and events, ensuring effective communication and collaboration among team members.
- Gained leadership experience through event management, financial oversight, and community engagement.

Ostomy Bag Cleaner|Shirley Ryan Ability Lab   **Sep - Dec 2023**
- Designed a compassionate and functional solution for cleaning ostomy bags, improving user independence and quality of life for patients.
- Conducted primary research, including interviews with patients and medical professionals, to understand user needs and design requirements.
- Utilized Solidworks for prototyping and 3D printing to develop and test a working model, culminating in a viable product ready for implementation.

PROFESSIONAL EXPERIENCE

Cardboard Carnival|Y.O.U. Maker Space|Evanston IL   **Jan-April 2024**
- Led educational workshops for underrepresented youth, introducing foundational concepts in engineering, design, and coding.
- Taught students how to write basic code to control servo motors, fostering problem-solving skills and creativity through hands-on projects.
- Mentored students in collaborative design thinking, encouraging teamwork and iterative development processes.
- Gave back to the community by inspiring and empowering youth to explore STEM fields and build confidence in their abilities.

Manager on Duty|City of Aurora|Aurora CO   **May 2022 - Present**
- Supervised daily operations at various city facilities, ensuring patron safety, facility maintenance, and operational efficiency.
- Led a team of staff responsible for maintaining facility cleanliness, conducting routine safety inspections, and enforcing safety protocols.
- Conducted training sessions to ensure team members were up-to-date on safety regulations and operational procedures.
- Promoted from a summer position to Manager on Duty, demonstrating leadership, conflict resolution, and team management skills through consistent performance.