

# BILL YEN

Evanston, IL 60201

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## EDUCATION

**Northwestern University**

Evanston, IL; Expected June 2023

Bachelor of Science in **Environmental Engineering** | Certificate in **Human-Centered Design**

**Cumulative GPA:** 3.91/4.00

**Relevant Courses:** AutoCAD and GIS; Solid Modeling; Projects Practicum in Environmental Engineering; Design Thinking and Communication; Thermodynamics; Advanced Mechatronics; Biological and Ecological Principles; Environmental Systems and Processes; Organic Chemistry; Physics (E&M); Fluid Mechanics

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## PROFESSIONAL CREDENTIAL

**LEED AP Building Design + Construction**, *Green Business Certification Inc.*

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## SKILLS

**Computer:** Proficient in AutoCAD, ArcGIS, MATLAB, Python, SOLIDWORKS, Microsoft Office, Google Suite

**Graphics:** Proficient in 2D Design and Adobe Photoshop

**Languages:** Mandarin (fluent), Taiwanese (fluent), Spanish (working proficiency)

**Others:** Proficient in Public Speaking, Management, Machine Shop Work, Patent/White Space Analysis, PCB Design

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## RELEVANT EXPERIENCE

**Wells Biotechnology and Microbial Ecology Lab**, *Research Assistant*; Evanston, IL

*June 2020 - Present*

- Designing resilient microbe-powered soil batteries to provide renewable energy supplies to distributed sensor networks under Northwestern's Department of Civil and Environmental Engineering
- Operating 8 soil microbial fuel cells (SMFC) and collecting data for maximum power generation
- Devised schematics for the manufacturing of 16 SMFC scaled-up prototypes with SOLIDWORKS

**Engineers for a Sustainable World**, *Co-President*; Evanston, IL

*September 2019 - Present*

- Leading a multidisciplinary team of 11 engineers in the design and construction of an automated aquaponic system that can be monitored and controlled remotely with sensors, actuators, and a Raspberry Pi
- Developing an intuitive graphical user interface (GUI) software with data logging capability using Python to simplify the system's remote monitoring and controlling process
- Constructing a 5-gallon radial flow filtration device capable of removing solids and ammonia from the system

**U.S. DOE Solar Decathlon Design Challenge**, *Water Systems Engineer*; Evanston, IL

*July 2020 – April 2021*

- Engineered a centralized, efficient, and prefabrication-friendly residential water system for an affordable Zero Energy Ready Home based on a site in Chicago, IL
- Reduced the home's overall potable water consumption by 60.5% relative to LEED, ENERGY STAR, and WaterSense baselines by utilizing low-flow fixtures, graywater reuse, and smart landscaping strategies

**White Space Product Development Challenge**, *Team Leader*; Evanston, IL

*December 2019 - April 2020*

- Invented Arbor, a patent pending, self-cleaning air purifier that uses live moss, activated carbon, and an UV-C bulb to remove airborne contaminants, increase humidity, and release negative ions
- Managed a team of 4 engineers through the research, design, prototyping, and presentation phase of the project
- Created a comprehensive 3D CAD model of the design with Onshape

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## AWARDS

- Grand Winner in the 2021 U.S. DOE Solar Decathlon Design Challenge *March 2021*
- 5<sup>th</sup> Place Team in PDMA Global Student Innovation Challenge *August 2020*
- 1st Place Team in White Space Product Development Challenge *April 2020*
- 1st Place Team in Northwestern's Launch Entrepreneurship Accelerator *March 2020*
- Illinois Seal of Biliteracy in Spanish and Chinese *July 2019*

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## INTERESTS

Water and Energy Systems, Digital Art, Fishkeeping