

HANNAH BORUCHOV

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EDUCATION

Northwestern University, GPA: 3.65/4.00

Evanston, IL; Anticipated 06/23

Bachelor of Science in Mechanical Engineering, Segal Design Certificate, Minor in Art Theory and Practice

Relevant Coursework: Intro to Mechanical Design and Manufacturing (GD&T, Metrology), Electronics Design, Product Design

Technical Skills: 2D/3D CAD (Solidworks, NX, Onshape), Fabrication skills, Rapid Prototyping, Design for Manufacturing, Finite Element Analysis (FEA), Electronics Fundamentals, Tableau, Programming (Python, R, MATLAB, HTML)

PROJECTS

Design + Innovate for Social Change: Datum Project, Project Manager

Evanston, IL; 01/22 - 04/22

- Designed website for Datum data management app with Figma wireframes, data analytics, and user interface design principles
- Led a team of 4 students and managed project responsibilities and deadlines

Interdisciplinary Design Project: Snail Tracker, Design Team Member

Evanston, IL; 09/21 - 03/22

- Designed an accelerometer arduino package to track queen conchs in Florida for researchers at Shedd Aquarium
- Streamlined tracking process by replacing 2 package components, eliminating need for battery replacements
- Sourced and corresponded with 4 field experts to explore bioinspired adhesives and attachment methods for tracker package

Northwestern Formula Racing, Intake Systems Team Lead

Evanston, IL; 09/20 - 04/22

- Mentored a team of 3 engineers to foster passion for engineering and provide project guidance through roundtable discussions
- Increased plenum volume by 7% to improve engine performance
- Manufactured intake systems using CNC routing, prepreg carbon fiber layup, and 3D printing
- Budgeted part list by seeking inexpensive and efficient alternatives that increased air filter surface area by 11%

DTC: "Lean on Me" Project, Design Team Member

Evanston, IL; 01/20 - 03/20

- Designed a gait training arm support for patients recovering from spinal cord injuries at Shirley Ryan Ability Lab
- Created 4 prototypes for user testing and managed team tasks with project management tools

PROFESSIONAL EXPERIENCE

Lucid Motors, Powertrain Manufacturing and Chassis Mechanical Intern

Newark, CA; 06/22 - 09/22

- Created and organized intuitive process flow layouts for electric motor manufacturing lines
- Designed a benchmarking test to quantify brake caliper clamping force and EPB current that is adaptable to any rear caliper; Developed electrical and software architecture for load cell and DAQ system and designed an adjustable load cell mount
- Created a driving simulator steering wheel adapter for a Lucid steering wheel to increase accuracy of vehicle dynamics testing
- Spearheaded project to test electrical and mechanical limits of rear steer actuator system in house

Tempus Labs, Inc., Life Sciences Commercial Operations Intern

Chicago, IL; 07/21 - 09/21

- Piloted product vision and strategy of a new data visualization tool that will impact client experiences
- Conducted 12 interviews across 4 teams within Tempus to construct 4 user journeys to assist in scoping product capabilities
- Presented 4 user personas, user journeys, and user stories to 10 key stakeholders at Tempus including 2 from senior leadership

Wing Kam Liu Lab, Northwestern University, Research Assistant

Evanston, IL; 01/21 - 07/21

- Revamped an imaging segmentation method of the human spine in MATLAB by testing accuracy of 7 different mathematical functions to produce a streamlined model for scoliosis treatment
- Critiqued and provided feedback for 3 lectures and 3 chapters of a book about mechanistic data science

The Jackson Laboratory, Palucka Lab Intern

Farmington, CT; 07/18 - 05/21

- Created data visualizations in 5 different programs and presented data findings in biweekly lab meetings
- Authored research proposals for 4 individual projects and 2 poster presentations

Facilities Engineering Associates, P.C., Mechanical Engineering Intern

Farmington, CT; 07/20 - 08/20

- Constructed mechanical systems in 2D architectural Revit models from mechanical drawings to learn how to design MEP systems
- Compiled an informational guide and knowledge base of HVAC systems in order to organize material and educate future interns

ADDITIONAL ACHIEVEMENTS AND INTERESTS

Activities: Engineers for a Sustainable World, Society of Women Engineers (Publicity Committee), Women's Ultimate Frisbee

Publications: Jan Martinek, Hannah Boruchov,...(2021). Transcriptional Profiling of Macrophages in situ.... Cancer Cell

Awards: National Science Foundation (NSF) Research Experience for Undergraduates (REU) - 2021, Wing Kam Liu Lab

Interests: creating and enjoying art, mountain activities (skiing, hiking, kayaking), cooking creative vegetarian recipes