

Samir Shah

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EDUCATION

University of Michigan, Ann Arbor – M.S. Design Science, Focus in Product Strategy and Design Research, August 2019

University of Michigan, Ann Arbor – B.S. Mechanical Engineering, May 2018

- Software: SolidWorks, C/C++, Java, Python, Excel, SQL, Matlab, Simulink, LabVIEW, Umberto, HTML, CSS, Sketch, SPSS
- Coursework: Analytical Product Design, Automatic Control, Front End Design, DFM, Analytical Marketing, Interactive Design, Intro to Data Structures and Algorithms, Cognitive Ergonomics, Advanced Energy Solutions, Sustainable Development and Enterprise, Sustainable Technology Design, Usability Evaluation and Needs, Quantitative Human-Centered Design Methods

EXPERIENCE

Raskin Research Group: Design Research Practicum Project

Ann Arbor, MI: May 2019–August 2019

- Created a “now, near, far” roadmap aimed to facilitate collaboration and align stakeholder interests in the Drinking Water Industry to improve the health and safety of Michigan residents over the next 10 years
- Applied design research methods to conduct 70+ interviews, synthesize 2000+ data points, and ideate on key insights
- Shared user stories and experiences to create 4 tools that build empathy and increase collaboration, validated tools through usability testing with key stakeholders, and created a business model for smooth integration with private sector stakeholders

Moxxy Inc: Mechanical Design Engineering Intern

San Francisco, CA: May 2018–August 2018

- Supported reinvention of the breast-pump experience for modern working moms through user-centered design and IOT
- Cast, 3D print, or otherwise fabricated sensor prototypes and 3 mechanical mating components to test and fully characterize design concepts and performance, utilizing rapid prototyping and usability testing
- Automated and designed 6 testing stations using Arduinos and 3D-printed modular test fixtures; constructed test plans and protocols for manufacturers in China in preparation for product launch in December 2018
- Developed a prototype soundproof enclosure for acoustics testing to ensure the pump fixtures stayed under 40 dB in use

Whirlpool Corp: Product Management Intern

Benton Harbor, MI: May 2017–August 2017

- Conducted a literature review to analyze usage of renewable energy in commercial households and researched emerging technology at the Purdue ReNEW House to create a 5-10 year roadmap to increase usage of solar energy and grey water
- Developed pathway for a DC Architecture Dishwasher by converting electronic systems and components from AC to DC, allowing the components to directly utilize energy from solar panels and batteries increasing efficiency by 30%
- Designed an Arduino controlled rainwater irrigation system for the ReNEW house, which saved 125 gallons of water

Arc Innovations: Founder/Project Manager

Ann Arbor, MI: January 2017–December 2017

- Connected engineers with Michigan research labs in need of custom electronics, 3D printing, and software applications
- Built custom equipment to monitor fruit fly eating habits in response to neural modulation for the Dus Neuroepigenetics Lab

HaptiX Lab - Michigan Engineering: Controls Research Assistant

Ann Arbor, MI: April 2016–August 2016

- Designed a PID controller and 3D-printed a “Squeeze Band” to recreate proprioception in the form of haptic feedback; collaborated with kinesiology and neuroscience labs to test FDA approved prototypes on amputees
- Created and analyzed dynamic models in MATLAB to test the effectiveness of haptic feedback on prosthetics
- Developed 2 fixtures to improve current testing methods for prosthetics devices on able bodied and amputee participants

Whirlpool Corp: Electrical Engineering Intern

Amana, IA: June 2015–Aug 2015

- Developed a hidden light switch component to increase switch lifespan by 5+ years for Whirlpool’s French Door Refrigerator
- Performed a DFM review on main assembly line for the 3rd prototype build by monitoring assembly of UI components

PROJECTS

Michigan Hyperloop: Control Systems Lead

Ann Arbor, MI: Jan 2017–May 2017

- Led a 4 student sub-team to generate Simulink/MATLAB models that tracked pod movement and vibrations in 6 axes
- Performed thermal and operational analysis on pod’s external electronics to assure no overheating occurred in a vacuum

BlueLAB India Project: Mechanical Engineer

Ann Arbor, MI: Nov 2015–Aug 2016

- Designed, prototyped, and implemented 1,000 stoves in rural Gujarat to reduce lung cancer from inhaled smoke

LEADERSHIP & ACCOMPLISHMENTS

- I’ve Got Your Back, President – Led a 300 student STEM tutoring organization dedicated to teaching through collaboration
- Bio-mechatronics Journal Club – Delivered weekly presentations on developments in bio-mechatronics research
- FIRST Mentor – Mentored FRC Team 4237, teaching high school students the basics of engineering and design
- Rogel Scholarship Recipient – Shanghai Jiao Tong University 2016 Study Abroad, \$20,000 Scholarship Recipient
- ArtsEngine Award – Michigan Makeathon 2017; designing an emotion detecting ring

INTERESTS

- *Professional*: Product Management, Product Design, Sustainability, Automation, UX Research, HCI, Analytical Marketing
- *Leisure*: Cooking, Traveling, Reading, Cutting Hair, Sports (Tennis, Soccer), Art (Sketching, Acrylic Paints, Oil Pastels)