# Samir Shah

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## EDUCATION

**University of Michigan, Ann Arbor** – M.S.E. Design Science, Focus in Product Strategy and UX, May 2019 **GPA 4.0/4.0**
**University of Michigan, Ann Arbor** – B.S.E. Mechanical Engineering, May 2018 **GPA 3.44/4.0**

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

## EXPERIENCE

**Moxxly Inc:** ***Product Design Engineering Intern*** San Francisco, CA: May 2018–Aug 2018

- Supported reinvention of the breast pump experience for modern working moms through user-centered design and IOT
- Created and rapidly prototyped 3 different types of mating components for a detachable electronic housing for the Moxxly Flow, and conducted a usability test using the results to iterate 2 times on each mating feature
- Designed, iterated and automated 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–Aug 2017

- Conducted a literature review to analyze usage of renewable energy in commercial households and researched emerging technology at the Purdue ReNEWW 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 ReNEWW house, which saved 125 gallons of water a week and promoted goal of net-zero water usage

**Arc Innovations:** ***Founder/Project Manager*** Ann Arbor, MI: Jan 2016–May 2018

- Founded a company aimed to create and advance the technology used in non-engineering research labs at Michigan
- 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–Aug 2016

- Designed a PID controller and 3D-printed a "Squeeze Band" that recreated proprioceptive feedback on amputees' residual limbs; collaborated with kinesiology and neuroscience labs to test FDA approved prototypes on amputees
- Created and analyzed 15+ 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 assure controls feasibility for magnetic levitating pod in the SpaceX Hyperloop Competition
- Generated 3 iterations of Simulink/MATLAB models that tracked pod movement and vibrations in 6 axes of direction
- 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, developed, and implemented easy-to-make stoves to reduce lung cancer from smoke in rural Gujarat
- Created prototypes and manufacturing plans for production of over 1,000 stoves throughout rural Gujarat

## 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
- Peer Tutor and Mentor – Tutored students in math, physics and engineering, and assisted their career development
- 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, UI/UX, HCI, Agile, Analytical Marketing
- *Leisure:* Cooking, Traveling, Reading, Cutting Hair, Sports (Tennis, Soccer), Art (Sketching, Acrylic Paints, Oil Pastels)