

# CURRICULUM VITAE

## TARA SHIRVAIKAR

### PERSONAL INFORMATION

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### EDUCATION

Northwestern University, Evanston, IL  
McCormick School of Engineering  
Bachelor of Science in Electrical Engineering: Anticipated June 2021

### RESEARCH EXPERIENCE

**Feinberg School of Medicine**, Northwestern University, Chicago, IL  
Paid Research Assistant / Northwestern University Prosthetics-Orthotics Center, January 2018-Present

- Contribute to the processing, analysis, and interpretation of biomechanical data previously collected on 10 research participants with upper limb loss, using custom MATLAB code.
- Participate in weekly laboratory meetings; present progress updates to the research group.

**Johns Hopkins University**, Baltimore, MD

Paid Research Intern / Electrical and Computer Engineering Lab, June 2016 - August 2016

- Created a physiologically accurate Simbiology MATLAB-based model to simulate events in the glucose-insulin-glucagon system for healthy individuals and those with type-2 diabetics after meal consumption.
- Contributed to a research paper (manuscript in progress) that will be written by my advisor to further the understanding of the pathophysiology of type-2 diabetes and the creation of preemptive treatments, such as an artificial pancreas.

**Johns Hopkins University**, Baltimore, MD

Research Intern / Electrical and Computer Engineering Lab, June 2015 - August 2015

- Created Printed Circuit Board schematics for a computer chip and magnetic sensor using FPGAs and Altium Designer.
- Assisted graduate students with projects – self-taught Linear Algebra, MATLAB, FPGAs and circuitry.

### PROJECT AND WORK EXPERIENCE

**Institutes of Electrical and Electronics Engineers (IEEE)**, Evanston, IL  
Hardware Team, Northwestern University Chapter, September 2017 - Present

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- Built a drone with facial recognition capabilities in collaboration with a team of EECS majors.

### **Northwestern University**, Evanston, IL

Mag Slap!: A Game of Magnetic Spoons, September 2017 - December 2017

- Developed a group therapy activity for the Shirley Ryan AbilityLab to exercise patients' fine motor skills, emphasize grip and pinch strength and foster a sense of group collaboration and individual accomplishment.
- Used strong communication, teamwork skills to design and conduct client/user interviews and multiple rounds of user testing.

### **Homeless Youth Outreach Movement**, Millburn, NJ

Communications Director, New Jersey Chapter, March 2015 - June 2017

- Conducted online tutoring in GED material through Covenant House, a homeless youth shelter in Newark, NJ.
- Installed tutoring station, set up webcams, taught teachers software; coordinated tutoring calendars for the shelter.

### **Girls in Engineering, Math and Science (GEMS)**, Millburn, NJ

President, Millburn High School Chapter, March 2014 - June 2017

- Organized and taught afterschool programs to build female interest in science and technology through investigative, hands-on projects.
- Recruited more than 75 club members.
- Expanded afterschool program to 3 elementary schools and organized community events.

## SKILLS

Languages: English: native speaker; Spanish: fluent

Programs: MATLAB; 3D printer certified; HTML; CSS; C; Soldering; Altium PCB design; CAD software

## HONORS

- National Merit Commended Scholar, Millburn, NJ, June 2017
- Semi-finalist: Junior Sciences and Humanities Symposium
- International Golden Key from Mid-Atlantic Music Festival (Piano): Performed at Carnegie Hall in New York City and in Vienna, Austria
- Finalist: Mustang Classic for Extemporaneous Speaking

## INTERESTS

Prosthetics and orthotics

Bio-integrated technology

Comparative poetry