

# Charlotte Folinus

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## Education

### Massachusetts Institute of Technology

**Candidate for Bachelor of Science in Mechanical Engineering, June 2020**

GPA: 5.0/5.0 (Pi Tau Sigma mechanical engineering honorary)

Key courses: Design & Manufacturing I+II; Computational Structural Design & Optimization, Gordon Engineering Leadership (GEL) Program

## Experience

### MIT Sports Lab

**Researcher and Teaching Assistant, Spring 2018 to present**

Prof. Anette (Peko) Hosoi, Faculty Director; Christina Chase, Managing Director

Extract features from running gait data to create models to characterize biomechanics

Investigate the material properties of cubic 3D-printed lattice structures and compare these to existing mathematical models for infinite lattices

Mentor student teams for a Sports Technology class

Student Lead for the MIT Sports Summit

### Wahoo Fitness

**Research and Development Intern, May to August 2018; Atlanta**

Evaluated feasibility and identified design requirements for compliant systems for both bicycle trainers and leading-edge future products employing advanced materials

Reviewed over 100 papers and patents on optimization, biomechanics, and manufacturing

Built computational models and implemented FEA tools to explore problem space and optimize designs

### Sports Technology: Engineering & Innovation

**2.s983 Team Lead and Financial Officer, August to December 2017**

Constructed an apparatus to simulate flat light conditions, collected user data, and correlated user perception with image analysis through ski goggles

Organized a group of three engineers and facilitated communication with sponsor (Shred)

Work featured on MIT's homepage as the MIT Spotlight

### W8X

**Mechanical Product Design Intern, August 2017 to June 2018**

Modeled simulations and developed novel mechanisms for a robotics-based fitness device

Awarded \$25K in MIT Sandbox funding and named \$50K Gold Winner for MassChallenge

### MIT Newman Lab for Biomechanics & Rehabilitation

**Researcher, January 2017 to January 2018**

Programmed simulations of upper limb motion and analyzed human perception of motion

Awarded Douglas and Sara G. Bailey Fund, accepted to 2017 IROS Conference, and presented at the MIT Mechanical Engineering Research Exhibition

## Leadership & Service

### Pi Beta Phi

**Vice President of Membership, Massachusetts Gamma Chapter, January 2018 to present**

Lead member recruitment and improve member retention of over 100 sorority members

Streamlined member education by designing workshops to teach mentoring and conversation skills while reinforcing organization values

Pi Beta Phi Leadership Institute, St. Louis, July 2018

## Skills & Activities

### Computer

SolidWorks, Autodesk, Matlab, Python, Grasshopper, Arduino, Microsoft Office, Visual 3D, OpenSim

### Manufacturing

CNC Mill + Lathe, Injection molding, Waterjet, 3D Printing, Laser Cutting, Soldering, FEA

Golden Broom Award, MIT Pappalardo Laboratory, 2018

MIT MakerWorkshop Mentor, 2018

### Languages

Proficient in Spanish, 2004 to present

### Activities

Biking, Cross Country, Track and Field, Product Development, Travel, Cello, Cooking