

Seiji Engelkemier

<https://seijiengelkemier.net> | seijieng@mit.edu

EDUCATION

- M.S. in Mechanical Engineering, Candidate** 2019 - 2021
Massachusetts Institute of Technology. GPA : 4.0/5.0
Advisor: Robert Armstrong
- B.S. in Mechanical Engineering** 2015 - 2019
Massachusetts Institute of Technology. GPA : 4.8/5.0

EXPERIENCE

- MIT Energy Initiative (MITeI)** Cambridge, MA
Research Assistant Sep 2019 - Present
- Designing new and assessing existing thermal energy storage systems for grid-scale electricity storage and industrial processes
 - Techno-economic analysis of systems factoring in sensible and latent heat storage materials, energy conversion devices, and thermomechanical constraints
- Undergraduate Researcher* Sep 2018 - May 2019
- Assisted in development of model of U.S. electricity grid at power plants generator level
 - Improved performance >50x for MATLAB script cross-referencing power plant information from various federal agency databases
- Ecovative Design** Troy, NY
Core Research Intern June - Aug 2018
- Designed, built, & operated lab scale solid-state fermentation reactor with temperature and airflow control to advance fundamental knowledge of mycelium
 - Experimented with mycelial growth and strength, quantified with mechanical testing
 - Developed cost models to explore opportunities with potential clients and new markets
- Laboratory for Biologically Inspired Photonic Engineering** Cambridge, MA
Undergraduate Researcher Oct 2017 - May 2018
- Fabricated plastic optical fibers to improve yield and energy efficiency of commercial algae production
 - Incorporated microscopic image analysis of experimental laser-etched surface roughness into design model
- Soft Matter Lab (Technion - Israel Institute of Technology)** Haifa, Israel
Research Intern Jun - Aug 2017
- 2nd author of paper in *Polymers*, "Strategies to control performance of 3D-printed cable-driven soft actuators: from simple geometries to gripper prototype"
 - Designed and 3D-printed multi-material "hand" with four independent fingers attached to a uniaxial wrist

SKILLS

- | | |
|----------------------|---|
| Computational | MATLAB, Python, SolidWorks, C++ (Arduino) |
| Physical | Lathe, Mill, Laser Cutter, 3D Printing, Injection Molding, Microcontroller, Bench tools |
| Languages | English (native), Japanese (beginner) |

ACTIVITIES

- Data Visualization** Project Lead, visualizing MIT's sponsored research funding sources and sinks for financial transparency. (Jan 2018 - Present)
- MIT MakerWorkshop** Mentor, as member of lathe machine team, provided user training and held weekly shop hours. (Sep 2018 - May 2019)