

Seiji Engelkemier

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EDUCATION

- M.S. in Mechanical Engineering, Candidate** 2019 - 2021
Massachusetts Institute of Technology. GPA : 4.7/5.0
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
- Techno-economic analysis of proposed thermal energy storage systems and creating new designs for grid-scale electricity storage and industrial processes
 - Organize and run weekly MITeI research meetings

- Undergraduate Researcher* Sep 2018 - May 2019
- Assisted in development of U.S. electricity grid model to analyze effects of renewable energy on thermal power plants
 - Improved performance >50x by rewriting MATLAB script cross-referencing power plant information from various federal agency databases
 - Co-authored paper in *Environmental Research Communications*, DOI: 10.1088/2515-7620/abc86d

- Global Engineering (Senior Capstone)** Cambridge, MA
Team Member Sept - Dec 2018
- Worked in a team of six and with SunCulture, Kenya-based project sponsor, to provide more affordable solar powered drip irrigation systems
 - Co-designed patent pending control algorithm to operate pump energy-efficiently with drip irrigation
 - Co-authored ASME conference paper, "Feasibility of Pairing a Low-Cost Positive Displacement Pump With Low-Energy Pressure Compensating Drip Irrigation Emitters for Smallholder Farms in Africa"

- 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

COURSEWORK

<u>Mechanical</u>	<u>Energy</u>	<u>Computational</u>
Thermal-Fluids	Adv. Energy Conversion	Artificial Intelligence
Design & Manufacturing	Energy: Politics, Markets, and Policy	Numerical Computation
Measurement & Instrumentation	Urban Energy Systems and Policy	Intro to Modeling & Simulation

ACTIVITIES

- MITeI Energy Education Task Force** Member, representing the undergraduate educational experience and suggesting improvements to the academic and extracurricular opportunities. (Nov 2019 - Present)
- MIT MakerWorkshop** Mentor, as part of the lathe machine team, provide user training as well as hold weekly shop hours. (Sep 2018 - May 2019)