Seiji Engelkemier

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EDUCATION

MS & PhD in Mechanical Engineering, Expected 2019 - 2021/2024
Massachusetts Institute of Technology. GPA : 4.7/5.0
Advisor: Robert Armstrong
Society of Energy Fellows, 2021 - 2022

BS in Mechanical Engineering 2015 - 2019
Massachusetts Institute of Technology. GPA : 4.8/5.0
Member of Pi Tau Sigma

EXPERIENCE

MIT Energy Initiative (MITei) Cambridge, MA
Research Assistant Sep 2019 - Present

- Authoring chapters on thermal and compressed air energy storage systems for *Future of Storage* report
- Conducting techno-economic analysis of proposed energy storage systems and designing new ones
- Co-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

Mechanical	**Energy**	**Computational**
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