

JOHN SCHAFER

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Education

University of California, Berkeley

2024

M.S. in Systems Engineering, Department of Civil & Environmental Engineering, GPA: 3.715

Berkeley, CA

- Focusing on renewable power systems modeling, control and optimization.

Montana State University, Honors College

2021

B.S. in Applied Mathematics, GPA: 4.00

Bozeman, MT

Montana State University, Honors College

2021

B.A. in Political Science, GPA: 3.98

Bozeman, MT

Relevant Coursework

- Convex Optimization
- Machine & Reinforcement Learning
- Power Systems Engineering
- Dynamical Systems
- Data-driven Control
- Information Management

Professional Experience

Critical Infrastructure Analysis - Graduate Intern

Summer 2024

Lawrence Livermore National Laboratory

Livermore, CA

- Summer position within the Cyber and Critical Infrastructure Summer Institute at LLNL focusing on the modeling of power systems.
- Using Python/ MATLAB to apply optimization and control techniques to increase the resiliency of power system infrastructure within a national security context.

Solutions Consultant

2021-2022

commonFont

Bozeman, MT

- Implemented survey-based SaaS data platforms and BI tools for enterprise-level clients using Javascript, HTML and AWS. Engineered front-end dashboard visualizations and reporting.
- Produced data analysis/visualization using statistical methods and models as well as recommendation documents/strategic presentations.
- Head of a dynamic team within a growing startup that consulted on the technical and business value of SaaS based initiatives such as machine learning tools.

Teaching Assistant

Spring 2021

Honors Freshman Seminar Course MSU

Bozeman, MT

- Facilitated discussion and coursework; assessed weekly writing assignments and monthly research papers for a foundational text-based Socratic style seminar.

Research

Energy, Controls, & Applications Lab: UC Berkeley

Present

Member

Berkeley, CA

- Attending weekly lab meetings regarding the groups research in EV battery management, micro-grid strategies and optimal EV charging.

Optimal V2G Scheduling within an Ideal Microgrid Setting using Deep Q-Learning

Civil Engineering 291

- Semester project utilizing a custom built Deep Q-Learning and Actor-Critic model to develop the optimal charging policy for Vehicle-to-Grid enabled EVs.

Skills

Technical: Python, NumPy, Pandas, Scikit-learn, Keras, TensorFlow, MATLAB, Simulink, SQL, Git, Power Flow Simulation, ODE/PDE Methods

Core Competencies: Technical translation, Interdisciplinary Mindset, Written Communication, Leadership

Interests

hybrid micro-grids - nuclear fission & fusion - autonomous systems - skiing & trucks