

David Forman—CV

formand@mit.edu | 360-516-9720

EDUCATION

Massachusetts Institute of Technology — Cambridge, MA

- PhD student in Electrical Engineering and Computer Science (EECS) expected 2027
- Master of Science in EECS 2023
 - Thesis: “Bayesian Time Series Structure Learning: Formulation of an Event Driven Prior Distribution,” advisor John W. Fisher III, Senior Research Scientist
- Research interests: machine learning, computer vision, active learning
- Languages: Python, Java

Hillsdale College — Hillsdale, MI

- Bachelor of Science in Physics | Minor: Mathematics 2021
- *The Outstanding Physics Major Award*
- GPA 3.995

PUBLICATIONS & PRESENTATIONS

Front Cover Article — Journal of the Acoustical Society of America, Express Letters 2021

Forman, David J., et al. “Validating Deep Learning Seabed Classification via Acoustic Similarity.” *JASA Express Letters* 1.4 (2021): 040802 <https://doi.org/10.1121/10.0004138>

Oral Presentation — 179th Meeting of the Acoustical Society of America, virtual 2020

Recorded video: <https://www.youtube.com/watch?v=9lQkjBUZNm0&feature=youtu.be>

Forman, David J., Tracianne B. Neilsen, and David F. Van Komen. “A Classification Approach to the Characterization of Seabed Geoacoustic Profiles via Deep Learning.” *JASA* 148.4 (2020): 2444-2444. <https://doi.org/10.1121/1.5146742>

Poster Presentation — 223rd Meeting of the American Astronomical Society, Seattle, WA 2019

Poster: <https://drive.google.com/file/d/1rtf-Z-fgGs1HetzE3vOOB6NURusCgUJL/view>

Forman, David J., et al. “Distinguishing Bright Pulses from RFI via Machine Learning Using Single-Pulse Data from PSR J1713+0747.” *American Astronomical Society Meeting Abstracts*, Vol 233. 2019. <http://adsabs.harvard.edu/abs/2019AAS...23315315F>

UNDERGRADUATE RESEARCH

NSF REU Research Assistant in Computer Vision — UC San Diego 2020

- Created an image segmentation user interface via interactive machine learning
- Accelerated conservation labeling by an order of magnitude at Scripps Inst. of Oceanography
- Implemented in Java; created website <https://davidjasperforman.github.io/MLPaintWeb/>
- Advisors: Prof. Ryan Kastner and Prof. Curt Schurgers

NSF REU Research Assistant in Acoustics — Brigham Young University 2019

- Published first-author paper in JASA–Express Letters, featured on the front cover
- Doubled the classification accuracy of the group’s PyTorch CNN
- Designed a measure of acoustic similarity between seabeds
- Advisor: Prof. Tracianne Neilsen

- Churchill Fellow — Hillsdale College** 2019-2021
- Initiated automated transcription of historical documents, via Python and a Google Cloud API
 - Prototyped a search engine for textual search of documents
 - Director: Dr. Colin Brown

- Research Assistant in Astrophysics — Hillsdale College** 2018-2020
- Distinguished neutron star radio pulses from interference using scikit-learn machine learning
 - Discovered a bright single pulse, which I presented at the American Astronomical Society
 - Advisor: Prof. Timothy Dolch

HONORS

Matthew Lorber (1956) Presidential Fellowship, MIT 2021

British Marshall Scholarship Finalist 2020

Barry Oxford Scholarship Winner 2020

2nd Place, Solo Strings Competition, American String Teachers Assn., Michigan 2020

Concerto Competition Winner, Hillsdale College Symphony Orchestra 2019
Performance with orchestra: <https://vimeo.com/329844650>

National Honorary Societies

- Kappa Mu Epsilon — Mathematics Honorary
- Phi Kappa Phi — Academic Honorary
- Sigma Pi Sigma — Physics Honorary
- Sigma Zeta — Science and Mathematics Honorary

TEACHING

Teaching Assistantships

- Advances in Computer Vision — MIT 2023
 - Held weekly office hours and helped students formulate final projects
 - Graded homework and final project presentations
- Data Visualization — Hillsdale College 2018
 - Graded data visualizations over a 4-day intensive 1-credit course

- Volunteer Programming Teacher** — Spring Branch Academy, Jonesville, MI 2021
- Taught 6 students; met weekly for 6 weeks
 - Used the UC Berkeley *Snap!* blocks programming language