Dalit D. Hendel

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EDUCATION

MS, Data Analytics *May 2023 (Expected)*
Tufts University, Medford, MA *GPA: 3.9/4.0*

- **Coursework**: Data Science for Sustainability, Environmental Data Visualization, Communicating with Data, Introduction to Python for Data Analytics, Python and Machine Learning for Data Analysis, Applied Probability Theory, Statistical Methods, Introduction to Data Visualization in Tableau, Introduction to Data Management and Databases, Introduction to GIS

BA, Economics and Cognitive Science *June 2017*
Northwestern University, Evanston, IL *GPA: 3.5/4.0*

- **Relevant Coursework**: Economics of Energy, Environmental Economics, Applied Econometrics, Differential & Integral Calculus

SKILLS

Data Skills: Machine Learning, Classification, Clustering, Visualization, Regression, Significance Testing
Languages: Python *(Sklearn, Seaborn, Matplotlib, NLTK, Pandas, Numpy),* R *(plyr, dplyr, ggplot2, markdown),* SQL
Visualization/Database: Jupyter Notebooks, Tableau, GitHub, ArcGIS Pro, RStudio, PgAdmin, Replit

PROFESSIONAL EXPERIENCE

Center for Applied Brain and Cognitive Sciences, Tufts University, *Data Science Intern* *Medford, MA*
Principal Investigator: Dr. Tad Brunyè *February 2023-Present*

- Working closely with a team to build a **classification model** that can distinguish participant expertise (in years)
- Processing datasets (**data cleaning**, **standardizing**, and **feature engineering**) for over 6,048 data files
- Selecting significant features, **building/training/validating** the model, and **visualizing** outcomes

Center for Applied Brain and Cognitive Sciences, Tufts University, *Senior Research Coordinator* *Medford, MA*
Principal Investigator: Dr. Holly A. Taylor *February 2018-2021*

- Performed a **cluster analysis** on mouse click and location data in **RStudio**
- Collected and completed statistical analyses of human subject data with **Python** and **Excel**
- Recruited and deployed over 650 human subjects on spatial navigation experimental procedures

Cognitive Neuroscience Laboratory, Northwestern University, *Research Assistant* *Evanston, IL*
Principal Investigator: Dr. Ken Paller *March 2015-June 2017*

- Deployed targeted memory reactivation sleep studies on human subjects by preparing EEG participants, checking and lowering skin-electrode impedance, and cueing participants with sounds during slow-wave sleep
- Results published in the article *Vocabulary Learning Benefits from REM After Slow-Wave Sleep (2017)*

ACADEMIC PROJECTS

Quantifying Disparities in Electricity Outages – *Python* *Fall 2022*

- Utilized **natural splines** and **decision trees** to analyze which municipalities in Massachusetts are at the greatest risk for long-term power outages due to various weather conditions (windspeed, precipitation, snowfall and temperature)

Image Classification – *Python* *Summer 2022*

- Compared **ridge** and **lasso** for feature selection on a **logistic regression model** for a binary image classification

GIS Vulnerability Assessment in Mexico – *ArcGIS* *Spring 2022*

- Utilized **raster** and **vector** data (water access, air pollution, and earthquakes) for a vulnerability assessment of Mexico

London Animal Rescue Analysis – *Python* *Spring 2022*

- Analyzed and visualized animal rescue patters and associated costs in London for the years 2009 to 2021

Hate Crime Analysis – *Tableau* *Spring 2022*

- Utilized the Stories feature to visualize various FBI hate crime statistics in the United States from the years 1995-2019

Movie Database – *SQL* *Spring 2022*

- Designed a movie database on **PgAdmin** following the principles of atomicity, consistency, isolation, and durability

Projected Temperature Change Impact Classification – *R* *Winter 2021*

- Compared the performance of a **neural network model** and a **random forest model** for classifying global temperature **raster** data to identify areas of the planet that are projected to change temperature by 2 degrees Celsius in the next 40 years

Heart Disease Classification – *Python* *Winter 2021*

- Created a **binary classifier** using **decision tree** and **random forest models** to identify heart disease outcomes in patients

Covid19 Death Analysis – *Python* *Fall 2021*

- Analyzed the daily COVID19 infection and death rate from Jan 2020 to March 2021 in the United States

PUBLICATIONS

Brunyé, T. T., Smith, A. M., **Hendel, D.**, Gardony, A. L., Martis, S. B., & Taylor, H. A. (2019). Retrieval practice enhances near but not far transfer of spatial memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 46(1), 24–45.

Gardony, A. L, **Hendel, D. D.**, & Brunyé, T. T. (2021). Identifying optimal graphical level of detail to support orienting with 3D geo-visualizations. *Spatial Cognition and Computation: An Interdisciplinary Journal*, 22(1), 1–26.

Brunyé, T. T**, Hendel, D.**, Gardony, A. L., Hussey, E. K., & Taylor, H. A. (forthcoming). Personality traits and spatial skills predict group dynamics and success during collective wayfinding. In D. Montello & K. Curtin (Eds.), *Research Directions in Collective Spatial Cognition*.