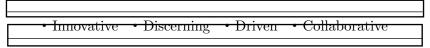
KARL JAEHNIG, PhD

+1(352) 328-0288 \circ Nashville, TN

jaehnig.k@gmail.com o linkedin.com/in/karljaehnig o https://kjaehnig.github.io



SKILLS

Programming Python, Rstudio, C++

Numpy, Scipy, SciKit-Learn, Pandas, Tensorflow, Keras, PyMC-3, EMCEE Libraries

ML Techniques Data: Mining, Wrangling, Cleaning, Feature Extraction, Model: Selection, Validation ML Algorithms Nearest-Neighbor, Mixture Models, Gaussian Processes, Decision Trees, Random Forests

Neural Networks CNN, BayesianNN, Deep-Learning, NLP

Software Dev Github, Docker, Jupyter

Databases SQL, SQLite-3

Visualization Matplotlib, Bokeh, Seaborn, Plotly, Glue-Viz

EXPERIENCE

Researcher Jan 2022 - August 2023

Vanderbilt University Nashville, TN

- Constructed neural network for anomaly detection in population data
- Performed model validation of clustering pipeline with noisy synthetic data
- Mentored junior researcher on multivariate clustering project

Data Scientist Aug 2021 - Jan 2022 Flatiron Institute New York, NY

- Constructed flexible Bayesian regression framework for time-series data, <3% error
- Employed Gaussian process models for red+white noise in time-series data
- Mined data from multiple SQL databases using custom written python code

Graduate Researcher

Jan 2019 - Aug 2021 Nashville, TN Vanderbilt University

- Designed unsupervised clustering pipeline for noisy data with accuracy > 98%
- Implemented python code that generate hundreds of custom SQL queries
- Performed outlier detection of identified clusters with probabilistic analysis
- Increased cluster member identification sensitivity by 11%

Graduate Researcher/Lecturer

Vanderbilt University

Aug 2017 - Jan 2019 Nashville, TN

- Improved anomaly detection with non-linear constraints on star populations
- Constructed Bayesian Monte Carlo inference model of time-series data
- Regularly lectured >100 person astrophysics class

EDUCATION 1

Ph.D. Vanderbilt University 2017 - 2023 Astrophysics

Master of Science, Fisk University 2015 - 2017 Physics

Bachelor of Science, University of Florida 2007 - 2011

Astronomy